DOCUMENT RESUME

ED 329 289 IR 053 484

TITLE	IFLA General Conference, 1990. Regional Activities: Africa; Asia and Oceania; Latin America and the Caribbean. Booklet 8.
INSTITUTION	International Federation of Library Associations, The Hague (Netherlands).
PUB DATE	Aug 90
NOTE	164p.; Papers presented at the International Federation of Library Associations (IFLA) General Conference (56th, Stockholm, Sweden, August 18-24, 1990). Booklet 8 contains five papers, one of which is in Spanish. In addition, seven papers are appended; the paper by Mejia is in Spanish.
PUB TYPE	Speeches/Conference Papers (150)
LANGUAGE	English; Spanish
EDRS PRICE	MF01/PC07 Plus Postage.
DESCRIPTORS	Academic Libraries; Community Information Services; *Developing Nations; Distance Education; Foreign Countries; Futures (of Society); Higher Education; Information Management; *Information Sources; *Information Technology; Literacy Education; Public Libraries; Regional Libraries
IDENTIFIERS	Africa; Asia; Japan; Latin America

ABSTRACT

The 12 papers in this collection were presented during the meetings of three sections of the Division of Regional Activities: (1) "Which Way African Librarianship?" (Kingo Mchombu); (2) "The Expansion of the University of the Air of Japan and the Changing Function of Regional University Libraries" (Katsuhiro Jinzaki); (3) "Mobilization of Library Resources for Literacy, Knowledge, and Development in the English-Speaking Caribbean" (Albertina Jefferson); (4) "Los recursos bibliotecarios en America Latina. Panorama general" (Library Resources in Latin America. The General Panorama) (Rosa Maria Fernandez de Zamora); (5) "Public Libraries. Information and Citizenship" (May Brooking Negrao and Sonja Regina Ceu Bertonazzi); (6) "Technological Prospects for Libraries in Developing Countries" (Edward J. Valauskas); (7) "Community Information and Referral Services in Rural Areas of Southeast Asia: A Conceptual Framework" (Katni Kamsono Kibat); (8) "Impact of Information Technology on Libraries in India" (Janak Raj); (9) "The Third Wave and the Third World Libraries" (K. Navalani); (10) "The Future of Librarianship in Africa" (Anthony Olden); (11) "El manejo de informacion sobre cultura popular: una estrategia de la biblioteca publica para estimular el acceso al conocimiento y apoyar procesos de alfabetizacion" (The Management of Information on Popular Culture: A Strategy of the Public Library To Stimulate the Access to Knowledge and To Support Literacy) (Myriam Mejia); and (12) a paper on Information Science (Shawky Salem). (MAB)

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56th IFLA GENERAL CONFERENCE
STOCKHOLM, SWEDEN
18–24 AUGUST 1990

ED329289

BOOKLET 8

REGIONAL ACTIVITIES

AFRICA

Session 136 Wednesday 22 August 08:30–11:00

Which way African Librarianship? (24-AFRICA-1-E)

Kingo Mchombu, Department of Library and Information Science, University of Botswana, Gaborone, Botswana

ASIA AND OCEANIA

Session 107 Tuesday 21 August 09:00–11:30

The Expansion of the University of the Air of Japan and the changing Function of Regional University Libraries (66-ASIA-1-E)

Katsuhiro Jinzaki, Hiroshima University Library, Hiroshima, Japan

LATIN AMERICA AND THE CARIBBEAN

Session 96 Monday 20 August 10:30–13:00

Mobilization of Library Resources for Literacy, Knowledge, and Development in the English-speaking Caribbean (51-LATAM-2-E)

Albertina Jefferson, University of the West Indies, Mona, Kingston, Jamaica

Los recursos bibliotecarios en América Latina. Panorama general (1-LATAM-1-S)

Rosa María Fernández de Zamora, Universidad Nacional Autonoma de México, México

Public Libraries. Information and Citizenship (88-LATAM-3-E)

May Brooking Negrão, Department of Public Libraries, Secretaria Municipal de Cultura, São Paulo, Brazil, and Sonia Regina Céu Bertonazzi, Department of Children's Library, Secretaria Municipal de Cultura, São Paulo, Brazil

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Which way African Librarianship?

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Abstract
African Librarianship introduced since the mid-sixties has failed to make a significant impact in society or offer a meaningful contribution to national development. The paper critiques reasons offered by leading librarians and Academicians for this poor performance, which casts the blame on external factors. It is argued that among the crucial problems which have to be addressed are the failure of librarianship to adapt to African conditions, and internal weaknesses within African librarianship, and a failure by most Library Schools to offer training appropriate to African needs. The author argues that an effective strategy for the rehabilitation of African Librarianship should involve developing a different framework for analysing its problems. A combination of measures is called for including linking Africa's indigenous knowledge resources with exogenous knowledge resources, restructuring and reforming Africa's libraries, and a vast improvement in information management capabilities by Africa's top librarians. It is concluded that Africa must seek to establish her own knowledge and information base which matches her information needs and perceptions rather than pursuing strategies which increase her dependency on foreign information resources.

Introduction
African Librarianship is now over twenty years old. It came about, largely, as a post-independence undertaking in institution building carried out jointly between the newly independent countries, and former colonial masters. Later on, the development of African Librarianship was to receive added impetus from the involvement of Scandinavian based aid agencies, Unesco, and the U.S.A.

The hope that African Librarianship offered the "best" approach in the supply of library-based information services to the different socio-economic groups and national economic sectors in Africa remains to this day. Over the past ten years, however, "watchers" of African Librarianship have raised concern towards its lack of direction and relevance in general, but particularly in the context of the national development process. Hope for concrete achievements has been replaced with frustration as each of the milestones marking the progress of African Librarianship dissolve into a shimmering mirage. Admittedly, much of this disappointment with African Librarianship has come from a younger generation of librarians and lecturers and students of librarianship both in Africa and overseas.

In this paper we evaluate the performance of African librarianship and attempt to indicate alternative methods of development which might make African librarianship more successful in the future than it has been in the past twenty years. When preparing this paper a number of questions served to act as my compass, e.g.: What impact has librarianship made on the African society? How are the problems facing African librarianship perceived by the major actors? What solutions do they suggest? What are the limitations to these perceptions and their accompanying solutions? Which are the problems these individuals fail to see because they are themselves part of these problems? Can African Librarianship be reformed using a different reference framework to the Anglo-American model of librarianship?

The status of library services in Africa

There is now no shortage of data which provides consistent evidence of the extremely low use and impact of library services in Africa. Evidence from different countries in Africa, and papers written by a number of prominent librarians, researchers, and students of library and information science all attest to this fact.

In a recent dissertation by Mbambo (1989) she found that in Gaborone (Botswana), a town of about 120,000, membership of the National-Public Library is about 9000 which is 7.5%. If we were to include users of academic libraries, and those of special libraries and other types of documentation centers throughout the whole country, the overall number of users as a percentage of Botswanas' population would most likely not exceed 5%.

In another study from Kenya by Kihara (1986) the regular users of Kenya National Library Serivce can be estimated to be around 2–3% of the total population. Writing in 1986 Mulaha Akinyi outlined the unfavourable information provision environment facing the education sector by noting that each secondary school is allocated by the government 20–50 Kenyan pounds annually for purchasing books. According to the writer such a tiny sum is inadequate to lay the foundation of a good library system, let alone to substain the life of an educational library service.

In Tanzania, a country of 23mi. people it was found that the number of users of library services is between 1–2% of the population, Mchombu (1984). This low percentage of use is accounted for by a library system characterised by poor library facilities in primary schools, secondary schools and most tertiary colleges. The public library service in turn has directed all its services to urban centers and avoided the rural dwellers who make up 80% of the country's population. In most government departments and parastatal organisations the so called library is often a storehouse for old newspapers, empty boxes and other unwanted items. According to one source the key problem is lack of foreign exchange. Kaungamno (1984:4) holds this problem responsible for the failure of the public library service "... to give back-up service to adult education programmes ... and to support adequately the millions of students pursuing education in various institutions in the country..." His conclusion in the above paper is suitably titled s.o.s. which contains an appeal, tinged with despair, beseeching donor agencies to come to the rescue.

Alemna (1989) evaluating the progress made by library services in Ghana, has concluded that "...the decade 1974–1984 has been the worst years, so far, in the history of librarianship in Ghana..." The picture he presents is like a gloomy shadow over all types of libraries. He gives an account of "...public libraries with outdates materials, some dating as far back as 1947. Many areas in the country are without public libraries because the Library Board has failed to implement its plans to provide libraries to all parts of Ghanas' districts. Most school libraries in the country are full of materials which are of little value to the students ... and managed by disgruntled library clerks who have no interest in librarianship... The materials in our University libraries are mostly outdated and of no academic and reseaarch value ... most special libraries, thirty years after independence, are still struggling to survive..."

The writer hopes that the introduction of IMF inspired economic recovery plans will change all this for the better.

Further evidence confirming the state of deterioration of library services in Africa has recently come from Michael Hailu (1989:2). He points out that:

> "... in most of sub-Saharan Africa, the infrastructure and manpower needed to provide information services to researchers and policy makers are either non-existent or inadequate..."

The most telling argument by the same writer, however, is whereby he points out that:

> "... facilities and services developed through bilateral and international aid usually collapse after the withdrawal of such support, since the local commitment to sustain them does not exist... It is not unusual to notice expensive equipment, including P.Cs, photocopiers, microfiche cameras and readers collecting dust at a ... library for want of a spare part that cost a few dollars in foreign currency..."

The above quotation, in my view, introduces a significant dimension to the diagnosis of the problems currently afflicting African Librarianship, namely, foreign aid by itself may not be the ultimate solution if African willpower is missing. This phenomenon of diminished self-confidence and despair has also been noted by Graham (1987:84) who comments:

> "... It is a symptom of tremendous pessimism to state a challenge as a matter, not of making things go, but simply to delay the collapse. However, in almost all institutions I visited the demand for an approach which acknowledges a crisis of basic needs is self-evident. The photocopier is broken down ..funds for buying books have dwindled to nothing... If one of the products of the service is an annual abstract, it has not been published for the last five years..."

This brief survey of the current state of African Librarianship would not be complete without some evidence from one of Africa's leading politician and a few of Africa's top Scholars.

Recently, Dr. Kenneth Kaunda, President of Zambia as reported by the Chronicle (1987:9) warned Zambians that they are heading for intellectual bankruptcy because of the poor state of the nations' bookshops. The President called the absence of good books a 'national tragedy'. However, one Zambian publisher is reported in the same issue to have pointed out that "... a report proposing solutions to the book plight was completed sometimes ago, but has been gathering dust while the authorities give it their consideration ... the reports suggests the formation of a national book development council along the lines recommended by Unesco..." Mbewe (1987). Once again the problem of perception is evident in Kaunda's lament, that the best books must come from overseas, this is an attitude shared by the majority of the elite in Africa including librarians of course.

This brief continental survey of the status of African Librarianship will now be rounded up with a few comments from some of the beneficiaries of Africas' libraries.

In the second conference of African Vice-Chancellors held in Swaziland it was revealed that because of lack of uptodate publicatons in University and research libraries, the headway being made in the science's and medicine and other disciplines in such Universities as Ibadan and Makerere in the 60's has virtually come to a dead stop in the 80's. According the late Crowder (1985).

> "... Many Universities (and research centers) have lost their ability to make contributions in the theoretical and even applied sciences, and therefore to the solution of the continents problems..."

An identically weak information support environment at lower levels of education was the subject of a report titled 'Books and Development' by Lalage Brown (1982). Although dated the report reads as if it was written yesterday. It is reported that textbooks in Ugandan schools have been handed down from one class to the next for the past ten years. Many school libraries have not acquired a new book for more than 10 years. The price of a primary school text book was equal to over a week's salary for a teacher. The same trends have been reported in other African countries, Sierra-Leone being one of them.

A re-mapping of the problems of African Librarianship

If one is to analyse these statements concerning the problems facing African Librarianship, particularly those made by librarians they all seem to agree, with a few exceptions, that the current problems are derived from the 'hostile social environment' within which libraries exist in Africa. To cite the *most often mentioned problems:* Kaungamno (1984), Lundu (1986), Kihara (1986), Alemna (1989).

1. African readers have not yet developed a reading habit.
2. Africa's oral culture and authoritarian transmission of knowledge does not favour the development of libraries.
3. Governments and decision makers do not fully support libraries, inparticular they have failed to institute and legislate national information policies.
4. African governments lack the notion of information as an important factor and strategy in the process of national development.
5. Over sensitivity of governments in Africa to critical information hence frequent attempts to block access to certain categories of information.
6. A low level of informatization of the African society, and overall low competence and propensity in incorporating large amounts of innovative information into goods and services being produced.
7. Illiteracy rates are too high to enable people, especially in rural areas and urban shanty-townships to appreciate use of libraries.
8. Students read only to pass examinations after which they stop reading.
9. The book industry has failed to supply sufficient materials in indigenous languages.
10. The economic recession in African countries has made it very difficult for libraries to obtain adequate funding and often there has been an absolute freeze on foreign exchange allocations.

There is no doubt that these 'external problems' exist. This checklist, however, has two major flaws–first, do these 'problems' represent what has caused African Librarianship to be weak or do they simply reflext its failure to adapt adequately to African social economic and cultural conditions?

We must face the fact that unless the real problems facing African Librarianship are mapped out accurately there is a real danger that what ever prescription is suggested, it will only cure the symptoms rather than the disease. We can only come to appropriate solutions if we carry out a critical re examination of the current conventional concepts and assumptions and if we are creative enough not to limit our search for solutions to the inherited model of traditional librarianship leading to the same old litany of unworkable recommendations. To us the above list of problems largely betrays the failure of African Librarianship to adapt to Africa's social economic and cultural realities and this is the *first theme of our concern.*

The first question to be asked is what are the burdens African Librarianship has inherited from the past? There is no better guide for this purpose than a recent publication by Sturges and Neill (1990). The point is made by the authors that after independence, African Liberarianship was born through the efforts of several expatriate librarians nurtured in the Anglo-American brand of librarianship without much consultation of African users. At that early stage, libraries were very highly regarded and obtained similar commitments as other essential services such as hospitals an schools, partly because of the thirst for education which gripped Africa at independence and the hope that libraries would contribute significantly towards achieving this cherished goal.

Despite of its early success, African Librarianship was unable to live up to the expectation of its government backers, or the intended users. At this formative stadge, there was a belief

that the informations needs, and the information seeking behaviour of Africans was identical to those of library users in Europe and North America. It was also thought that the concept an philosophy of librarianship as practiced in the Anglo-American tradition with its organisational and bureaucratic structures, bibliographically-biased foundation, and middle-class outlook could all be imported without modifications to Africa. It was left to the African public to adapt themselves as best as they could to this alien institution, for the institution was sacrosanct.

Although time has passed, African Librarianship has found it very difficult to stoop down and draw nourishment from its own people, and in turn enrich its own environment. Instead it has held itself aloof and isolated and has been content to serve the minority rather that develop innovative services and form alliances which would have permitted services for both the minority elite and the majority with low levels of eduction.

The second problem has been caused by the structural decoupling of libraries in Africa from their key user target groups, and the development of an inward looking mentality which tend to glorify internal processes at the expense of maximising use of library resources. Many examples abound to illustrate this contradiction–University librarians who claim to be academicians but are petrified at the thought of lecturing on information use skills to the University community and have no idea of academic and research activities going on at the University. National/Public libraries which purport to offer information in support of national development but have no idea what the country's national current development plan is targeted to accomplish, and have no links with the business, commercial or agricultural communities and their shelves are groaning under the weight of second-rate novels donated from Europe and North America. Few in these libraries have any inkling of the need to analyse the country's development plan and strategies for the purpose of drawing up a national information need profile.

It is argued here that libraries should be re-structred to reflext the development process at institution and national level. Such restructuring should be based on the belief that the major task of librarians is to supply information to users rather than processing an guarding documents. A frequent complaint of staff in libraries/informaton centers in Africa is that their work is not held in high esteem by society. It seems to me evident that to find their own niche in society, library and information workers have to enhance their role of information gatekeepers and act as an indispensable link between society and information.

It is equally, important, however, to assume the role of flexible facilitators of information transfer and exchange within institutions, groups and society at large. Each library should establish administrative links with its users to involve them in both needs specification and policy making. It is a fallacy that librarians are a separate and inviolable sect, and libraries must always be dressed in a distinctive straightjacket labelled 'library'. The reality is clearly that librarianship-viewed as information provision–is not a separate sector but an integral and organic part, which is necessary for the survival and development of a parent institution, or on-going process, or nation-wide campaigns. In such a situation success for a library will depend on how closely it can facilitate the integration of optimum information into the fabric of programs of the parent organisation.

Elsewhere in this paper we have quoted several prominent scources with an acute awareness of the current shortage of publications facing Africa and their preferred solution that foreign assistance be stepped up to enable the importation of the required materials. In my view this is a shortsighted solution at best, and at the worst it is a dangerous one. I term this solution shortsighted for two reasons, one it ignores the serious consequences of intellectual and mental subjugation which results from the domination of local information centers by

foreign publications. Secondly it detracts attention from the need to plan and develop an indigenous publishing capability.

A number of writers have warned of the danger developing societies face in uncritically accepting foreign knowledge and information some of which distorts their own reality particularly in the context of information as a source of power and influence. The sociologist Young (1961) argues that '... those in positions of power will attempt to define what is taken as knowledge ... they will define their own knowledge as superior ... and measure educational attainments in terms of it ... there is a close relationship between knowledge and power ...' In support of these views Durrani (1985) points out that "... Historically, every ruling class has established an information system which serves its own class interests..." Likewise Sardar (1988:148) expresses a similar view thus:

> "... there is a direct relationship between the organization of information and knowledge, the human mind, and social behaviour. Information and knowledge organized on the basis of a particular world-view, will direct the mind towards that world-view and hence will influence the behaviour of those who have (information and knowledge) imposed on them..."

In Africa today there is too much evidence of a distorted perception of problems and issues, alien cultural forms and characteristics for one not to agree with the above writers.

If we are to accept that the main duty of African Librarianship is to satisfy the basic information needs of society in such areas as: health and prevention of disease, environmental protection, farming and livestock husbandry, family planning, appropriate technology, education and literacy, maternal and child care, industrial production, commerce and economic planning, it seems mandatory that African countries should strive to create their own knowledge and information base relevant to these requirements. This argument should not be construed to mean that we are advocating for Africa to isolate itself from scientific an technological developments, throughout the world, far from it, Africa can and should learn from others but such knowledge and information acquisition should be carried out selectively and objectively to breach an identified information gap. Olden (1987). In turn, Africa should share her own knowledge with the international community.

The present information aqcuisition pattern in Africa is that importation of publications and other information resources closely follows former colonial ties, with former. British colonies importing most of their publications from Britain and the U.S.A., while the former French colonies import most of their publications from France. It is argued here that though such preferences are partly dictated by language knowhow, it is still a non-objective information acquistion criteria through which Africa has failed to benefit fully from scientific and technological knowledge originating from sources whitout recent colonial links. West Germany, the Nordic countries and Japan are good examples of this commisssion. Japan in particular in the areas of industrial and general economic management because the concept of Japanese management is more relevant to Africa that the management theories of Europe which are based on excessive individualism.

Neither has Africa benefited much from the information resources of other developing countries especially by accessing relevant information from the Newly Industrialised Countries of the Asian Sub-continent. It seems, however, that the most worrying shortcoming of African Librarianship is the failure to promote the exchange of information among African countries through regional and continental networks. Since African countries have a similar cultural background and face similar national development challenges, the knowledge and information products of one country are likely to closely match the information needs in other

African countries. In our view this constitutes a strong basis for creating the required structures and supporting existing institutions which facilitate the transfer of information among African countries e.g. the Pan-African Documentation System under the Economic Commission for Africa, SACCAR which has been formed to supply agricultural research information to SADCC member countries in southern Africa, Kyomo (1989), and other institutions elsewhere in Africa which have been created to facilitate the sharing of information produced in Africa but are failing to do their duty because of indifferent support from the African information sector.

It has been stated elsewhere in this paper that African countries have to concentrate on generating their own knowledge and information base which matches their information needs rather that perpetuate the current state of information-dependency on Europe and the U.S.A. Such an undertaking will have to be designed in such a way that it can incorporate the oral indigenous knowledge resources into the refurbished national information base. The challenge to African Librarianship calls for creating information structures and methodologies which can synthesize Africa's vast traditional knowledge resources with the modern knowledge resources.

The second theme of our concern is that if problems of African Librarianship are solely explained in terms of 'external forces' then it is too easy to ignore what we consider to be most serious weaknesses of African libraries–namely poor international management, and lack of a marketing strategy in information provision.

A major contributor to the decline and marginalisation of African Librarianship is the weak management and leadership capabilities of most of Africa's top librarians. For library services to be run efficiently, resources (staff, documents, buildings and equipment, vehicles etc) must be managed competently to ensure the lowest cost of expenditure per unit of service rendered, Mchombu (1982). Data generated by the library management process must be collected continuously and related to the different items of expenditure to identify levels of expenditure which cannot be justified when weighted against the importance of a particular service. In this way a library can work out performance indicators and relate these to coasts incurred e.g. the cost of the various components of a library service: – salaries, informational resources, transport, equipment, services to specific user groups etc.

At the moment it is difficult for many libraries in Africa to monitor their performance in relation to resource utilization because the basic data is either not kept or if kept it is not properly analysed. This is ironical because quite often African librarians have castigated planners and decision-makers for their failure to utilize information in their work. It now appears that librarians are equally guilty of the same sin. A management information system is obviously one of the missing links in library management in Africa. As Kinder (1989) shows from a sightly different context, armed with such data it becomes possible to detect wastage, distorted expenditures, and underfunded key services and provides a solid basis for planning future development without such data plans are mere lists of dreams.

Three qualities, it seems to me, are urgently demanded from Africas' top librarians. First is a capacity for collective leadership, the ability to work with and utilize fully the diverse talents of all members of staff. Second (and this above all) is the need for a person who is fully committed to the virtues of marketing library and information services to society. Third is the need for a person who is sharply ware of the combination of opportunities and problems posed by the information environment, and has enough confidence to pilot an information system based on the principle that locally produced information resources are more relevant than imported ones.

The most decisive component of an information provision system, apart from the users and their needs, is human resources. Having briefly touched on the shortcomings of Africas' top

librarians, we shall now briefly outline the type of personnel required to implement the reforms and new look African Librarianship avocated in this paper. The type of staff required must be of very high quality who have recived appropriate education and are highly motivated to responde to the different information handling situatons in a innovative and efficient manner. Every country in Africa is full of young people who meet the above criteria unfortunately both the training and personnel management style suffer from major deficiencies. We still encounter, too often, extreme forms of authoritarian rule in todays African Librarianship. Decisions are often made not on the basis of laid down procedures but on the basis of the whims of the one in-charge and can change from one day to the next. Various forms of injustices are still perpetrated with impunity, and in some countries the evils of nepotism, corruption and political persecution combine into an evil concoction which serves to demoralise staff and create high turnover of good people.

The original source of the problem of finding staff with the required skills and attitude is the weaknesses of Library School programs and inadequate on-the-job training programs by libraries and Africa's weak Library Associations. Relevant training whether offered in a Library School or as part of continuing education should be doing at least two things: First suffusing the entire programme with a consciousness of the African information environment as the foundation on which present libraries are created. Second develop an indepth programme of specialization to include: – repackaging of information, indigenous knowledge resources, and development librarianship.

Appropriate education is already starting to emerge in a few African schools but in most cases library and information science education is still problematic with some schools contented to copy syllabi in use in European/North American schools 15 years ago. On the other hand sending students abroad has proved to be equally irrelevant because they are often compelled to take courses which were designed for a totally different information environment, Kurshid (1970), Sardar (1988).

At the moment we are witnessing the opening up of new schools in a number of African countries most of them with only one or two full time members of staff, a serious shortage of learning resources, and the inevitable outdated syllabi which has been hastily copied from overseas with little or no participation of the Library Association and potential employers in the country. Informaton Trends (1989), Otike (1989).Two recent examples from Moi University in Kenya, Rosenberg (1989), and University of Botswana, Harvard-Williams (1988) where the formulation of a curriculum is preceded by a survery of education and training needs of library/information workers are among the few exceptions to this sad trend. It is obvious that education and training of future librarians for Africa whether carried out within Africa (and totally dependent on imported textbooks) or overseas, with a few exceptions, is failing to produce the type of personel who can spearhead the required reformation of African Librarianship.

Appropriate training of fresh graduates, and retraining of existing staff (including the retraining of lecturers in Schools of Library and Information Sciences) must include basic skills in information technology. Information technology which currently plays a peripheral role in most libraries in Africa could both enhance efficiency and alter the poor image the public has about librarians. The time has come for microcomputing skills, database management skills, awareness of satellite communication potentials to be regarded as common knowledge areas rather than esoteric skills.

The next problem which we shall consider in this paper is composite in nature but can be summarized through use of the following phrases: lack of a sense of direction, an attitude of despondency and over-dependency on foreign donor agencies. Evidence of this problem is seen often when programs are conceived because they are likely to appeal to donor agencies

and not necessarily because they are a priority. What happens when the donor funding comes to an end has already been highlighted elsewhere in this paper (see Hailu 1989, and Graham 1987). We advance the view that part of the explanation for this malaise is the absence of policy guidelines to provide a sense of direction, and clarification of the role af African Librarianship in the complex information exchange/transfer process, both within a country and at the international information exchange sphere, for each country to derive full benefit from its own information resources and those of other countries.

A first step towards tackling this insidious stance would be through the establishment of national information policies to provide much needed guidelines for the management of information and informatics at the national level. The national information policies should also identify the mechanism and technologies required by government officials, decision-makers, the sectors of industry, commerce, agriculture, health, and education to obtain the relevant information.

It is worth injecting a note of caution here concerning the relationship of national information policies to library development policies. Currently several African countries are in the process of formulating what they perceive is a national information policy using the various guidelines issued out by Unesco, Lundu (1987), Wesley-Tanaskovic (1985). Their efforts, however, are likely to end in failure because of two basic limitations; first there is a failure to comprehend that a policy for libraries, archives, and documentation centers cannot be successfully masqueraded as a national information policy. Also the fact that the task of formulating public policies is a prerogative of governments and the legislature, hence African librarians are likely to be disappointed if the continue to misjudge the role and contribution they can make towards the formulation of national information policies in their country. At present there is an illusion that librarians are the formulators of national information policies, Mchombu and Miti (1990).

It is gratifying to note that the search for solutions beyond current models of library services and the formulation of valid parameters for action has attracted the attention of at least two international organisations–the International Development Research Center (IDRC) of Canada, and the German Foundation for International Development (DSE). The Information and Documentation section of DSE has developed a training policy which favours south to south cooperation and currently runs a number of continuing education programs in Eastern and Southern Africa following a training needs plan identified and formulated by the region itself. The Information Sciences Division of IDRC, has recently articulated an information strategy for Africa largely based on the advise of African information specialists who assisted in identifying Africa's information needs and priorities from which a plan of action has already been mapped out. (IDRC, 1989).

Concluding remarks

This paper makes an attempt to outline the problems and challenges African Librarianship faces as we move into a new decade. These challenges are categorized into two broad areas, first are the problems which characterize the information invironment of Africa and second are the problems which are internal to African Librarianship. It is argued that in the past most of the efforts to analyse the problems of African Librarianship have tended to concentrate on external problems rather than the root causes which are the internal weaknesses of African Librarianship. The conclusion of this paper is that the solution to the current problems of African Librarianship is *primarily internal in nature rather than increased external assistance.* Foreign aid can offer temporary relief but it cannot compensate for the weak foundation on which African Librarianship was built.

The second major conceptual conclusion of this paper is that it is unlikely to find appropri-

ate solutions to the real problems facing African Librarianship if we confine our search within the inherited framework of an imported and unreformed model librarianship. As one writer put it recently this will simply lead to futile never ending demands for foreign funds to import more information resources of marginal relevance, and to construct library facilities incapable of satisfying more than 10% of Africas' information needs, Durrani (1985).

We wish to re-capture the main suggestions offered in the main text of this paper as follows:

1. There is an urgent need for feasibility studies to be carried out on the main libraries in Africa as a precondition for setting new goals and objectives and establishing socially accountable and relevant institutions which can satisfy the basic information needs of all the people of a given country.
2. As we enter the 1990s' African Librarianship is crying for reforms, specifically in its organisational structures and positioning, staff management and career structures, and a reassessment of the theoretical constructs which served as its foundation.
3. The management of African libraries require to be strengthened, in particular the replacement of one-man (woman) regimes with management teams of senior staff. The introduction of management information systems is mandatory if the planned development of libraries in Africa is to be converted from the dream of tomorrow to a concrete program of action to control future events. There is a training need in top level management for Africas' top librarians as part of a continuing education program.
4. African Librarianship should forge alliances with the following natural allies in the information sector:– the publishing industry, the education and non-formal education sector, the informatics sector, the mass media, and the extension agencies in order to create a strong pressure group to pressurize relevant authority in the country to implement the formulation of national informaton policies.
5. Africas information needs cannot be fully satisfied through the importation of information products from overseas. Such importation if unregulated have the serious side-effects of mental and intellectual subjugation, and distorts the perception of users.

It is of great importance therefore for libraries to develop a capacity for small scale production of information resources which will breach the information gap which foreign publications can never be expected to fill through use of Desk Top Publishing technology. Libraries should also develop close working relationships with local publishers to increase the number and utilization of locally produced publications.

Most of the suggestions offered here are already emerging in a few library systems in Africa. Given the wide diversity within sub-Saharan Africa, each country's information professionals have to develop a strategy for the rehabilitation of librarianship suits best their socio-economic circumstances. The aim of my paper has been to seek a common ground for intensifying an ongoing debate on the relevance, contraints and future of African Librarianship.

May I end this presentation by referring directly to the question which forms the title of this paper. It is my contention that the *way forward* for African Librarianship will be closely linked to the fortunes of Africa. Sub-Saharan Africa is in a troubled state both economically and politically but is searching for alternative solutions which do not include 'conditionalities' of new forms of subjugation. Other professional groups are actively involved in reassessing their role in order to determine what meaningful contributions they can make to the reconstruction of Africa. The road ahead for African Librarianship, therefore has already been sign posted. It involves reforming African Librarianship into 'development librarianship' which is capable of making a major contribution towards the development of Africa, but perhaps of equal significance is for African Librarianship to develop its own identity rather

than being a mimic of Anglo-American Librarianship. The substance and methods of African Librarianship will be an interlocking mix of indigenous knowledge and modern knowledge resources responding not only to Africas' information needs, but also arising out of the reality of Africa.

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The Expansion of the University of the Air of Japan and the Changing Function of Regional University Libraries

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Abstract

At present, broadcasting coverage of the University of the Air of Japan is limited to the Kanto region, which is one of the eight regions of Japan. Tokyo is the central city of this region. In the future, when the broadcasting coverage of the University of the Air has expanded into the other seven regions of Japan, the cooperation of regional university libraries, both national and private, will be indispensable, especially in the Regular Students' use of direct-access materials such as books, magazines, and newspapers.

University libraries will collect, for the sake of their students, all the video-cassettes of the taped lectures of the University of the Air. The University of the Air in turn will obtain the aid of university libraries. The mutual assistance and cooperation between university libraries, especially regional university libraries, and the University of the Air will be more effective with the help of a network system which ties all types of libraries and information centers together through computer and television terminals.

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1. The University of the Air of Japan and its expansion

The University of the Air of Japan is new and different from traditional Japanese institutions of higher learning in the sense that it is an open university. It aims to meet national expectations as a nucleus institution of higher learning for lifelong education in Japan. The University admits any applicant who is over the age of eighteen and does not have any entrance requirement except that in order to become a Regular Student it is necessary to be a high school graduate. The University broadcasts lectures through its own radio and television stations. These lectures are based on published materials prepared by its faculty members.[1] In addition, the University provides a full program of education through the use of guidance by mail and classroom instruction at study centers.

The University of the Air has established a Faculty of Liberal Arts which offers courses in three areas of study, each of which has two majors. This academic system is illustrated in Figure 1 below.[2]

In the University of the Air of Japan, there are four different student classifications: (1) Regular Students intending to graduate, (2) Non-Degree Students who enroll for one year or for one term, (3) Seminar Students intending to study a specific subject for one year, and (4) Special Students who want to become Regular Students by studying specific subjects for one year. No entrance examination is required for admission in any category. In most cases, students are accepted on first-come-first served basis.

People with intention of graduating from the University of the Air register as Regular Students. The University of the Air enrolled its first students in April, 1985, and turned out its first 544 graduates with the degree of Bachelor of Arts in March, 1989. Their ages ranged

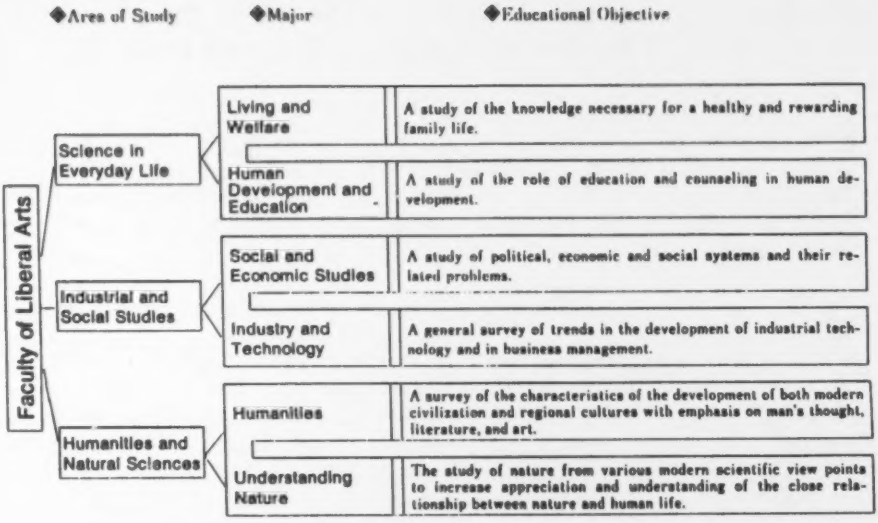
◆Area of Study
◆Major
◆Educational Objective
Faculty of Liberal Arts
Science in Everyday Life
Industrial and Social Studies
Humanities and Natural Sciences
Living and Welfare
A study of the knowledge necessary for a healthy and rewarding family life.
Human Development and Education
A study of the role of education and counseling in human development.
Social and Economic Studies
A study of political, economic and social systems and their related problems.
Industry and Technology
A general survey of trends in the development of industrial technology and in business management.
Humanities
A survey of the characteristics of the development of both modern civilization and regional cultures with emphasis on man's thought, literature, and art.
Understanding Nature
The study of nature from various modern scientific view points to increase appreciation and understanding of the close relationship between nature and human life.

Figure 1. Academic Structure of the University of the Air

from twenty-two to seventy-nine. In March of 1990, the number graduated from the University reached 602. A total of 26,000 students of all ages, both sexes, and many occupations are currently enrolled in the University. They are pursuing various academic programs in their homes, at their places of work, and at the study centers.

At present, broadcasting coverage is limited to the Kanto region,[3] which includes Tokyo. Six study centers and two branch study centers have been established in the Kanto region for giving lectures and academic counselling. University of the Air officials are making preparations to expand their broadcasting network so that they may be able to serve the whole country in the future. This April, four new video study centers were established at Hiroshima University in Hiroshima, Kyushu University in Fukuoka, Hokkaido University in Sapporo, and Ryukyu University in Okinawa. Though broadcasts are not yet received in these four regions, these four video study centers will accept Non-Degree Students who enroll for one year or for one term beginning in October of this year.

2. The changing function of regional university libraries

Graduation from the University of the Air is possible after being enrolled at least four years and having received a total of at least 124 credits in stipulated areas. Those graduating from the University receive the degree of Bachelor of Arts. During the year before graduation, Regular Students must complete either a graduation thesis or the equivalent. For this purpose research is conducted under the supervision of one of the professors of the University of the Air.

Each study center possesses a collection of, on the average, about 26,000 books, 63 journals, and two collections of six thousand taped lectures available for viewing. For a Regular Student to complete a graduation thesis, however, the collection of books and journals at each study center is not satisfactory either in quality or in quantity. The library on the campus of the University of the Air now possesses a collection of approximately 80,000 books and

537 journals, and is to be expanded up to a collection of 300,000 books within several years.

In the future, however, when the broadcasting coverage of the University of the Air has expanded into the other seven regions of Japan, the cooperation of regional universities' libraries, both national and private, will be indispensable, especially in the Regular Students' use of direct-access materials such as books, magazines, and newspapers. For example, principal university libraries of each region such as those of Hiroshima University,[4] Kyushu University, Hokkaido University, and Ryukyu University, will have to play an important role.

In addition to cooperation which will benefit students of the University of the Air, university libraries have been experimenting in the use of non-print media. In the past, collecting and keeping manuscripts, books, and journals, as the means of recording and transmitting information, has constituted the main role of university libraries. Now, new technologies for information transfer are providing new kinds of materials and are affecting the role of university libraries in Japan. Photocopies and microfilms, computers and databases, optical memory discs, facsimile transmission and data communication have all come into common use. There is a growing awareness that university libraries must expand into multimedia centers.

University libraries will collect, for the sake of their students, all the video-cassettes of the taped lectures of the University of the Air. The University of the Air in turn will obtain the aid of university libraries. The mutual assistance and cooperation between university libraries, especially regional university libraries, and University of the Air will be more effective with the help of a network system which ties all types of libraries and information centers together through computer and television terminals.

Notes

1. The broadcast materials are produced both through the assistance and cooperation of the National Institute of Multi Media Education and with the cooperation of specialists in various fields at both national and private universities.
2. The University of the Air Foundation, *A Guide to the University of the Air, 1989,* (Chiba City, Japan: University of the Air Foundation, 1989), p. 13.
3. Japan can be divided into eight regions. They are, from north to south, Hokkaido (Sapporo), Tohoku (Sendai), Kanto (Tokyo), Chubu (Nagoya), Kansai (Osaka and Kyoto), Chugoku-Shikoku (Hiroshima), Kyushu (Fukuoka), and Okinawa (Naha) regions. The central city or cities of each region is indicated within the parentheses following the name of the region.
4. The collection of books of the Hiroshima University Library numbers 2,400,000.

Mobilization of Library Resources for Literacy, Knowledge and Development in the English-speaking Caribbean

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Abstract
The paper gives a general overview of the problems associated with literacy and development in the English-speaking Caribbean. Three case studies from the territories of Trinidad, Jamaica and the Organization of Eastern Caribbean States are used to exemplify what is being done in the region to provide information for socio-economic development and as an aid in the fight against illiteracy. The author concludes that library services will benefit from increasing support if there is widespread awareness of their potential contribution to development.

Introduction
The English-speaking or Commonwealth Caribbean is defined as all those countries in and around the Caribbean sea which were formerly colonies of the United Kingdom. They vary in size and population from the largest in area, Guyana, 83,000 square miles, with a population estimated at 793,000, to Anguilla, about 35 square miles and a population of 7,000, through Jamaica, the most populous, 4,243 square miles with a population of 2½ million, Trinidad and Tobago with a population of 1,055,800 in 1,980 square miles, and Barbados, an area of 166 square miles inhabited by some 252,000 people. Beside the mainland territories of Belize (on the east coast of Central America) and Guyana (on the north-east coast of South America) the territories form an archipelago stretching from Jamaica (south of the eastern extremity of Cuba) to Trinidad and Tobago, 7 miles distant from Venezuela on the north coast of South America.

While English is the official language of the countries, it is not the mother tongue of all the region. Much of the society's interaction may be conducted in varieties of Caribbean English Creole, Caribbean French Creole or more than one Indic language and dialect or speech patterns intelligible in large measure to the individual territory. The schooling system had been programmed to condemn and suppress these forms of communication, but post independence revaluations have been more liberal and have regarded them as legitimate forms of expression.

A high incidence of illiteracy, not to be confused with no schooling, has for a considerable length of time been a salient feature of the territories and was projected in 1980 to range from 8% in Barbados to 60% in St. Lucia, with an average for all territories of 19.2%. The high rate for St. Lucia may be skewed by, and associated with the large proportion of persons who are monolingual speakers of St. Lucian creole thus finding difficulty in participating in an education system in which English is the medium of instruction. Chronic shortages of qualified teachers and materials, deteriorating buildings and equipment have become the perennial problems of primary and secondary education. The universal measure of "functional literacy" as the equivalent content of four years of primary schooling as sufficient to establish literacy as a lifelong skill is not valid in the context of the English-speaking Caribbean. It must

be noted however that the majority of persons who have become literate have done so as a result of their primary schooling during childhood.

As may imagined, the territories that comprise the English-speaking Caribbean are not all at the same level of development in so far as library and information services are concerned. It may be said that on average the larger territories are in the forefront of such services, but they all suffer from what may be termed "Third World development patterns" – the existence of traditionally oral folk culture, escalating population growth, a low per capita income, a limited number of skilled personnel and a shortage of books. Most Third World peoples have limited access to the world body knowledge, for the countries in which they live are at the periphery of the international intellectual system. Information however, is the most important factor in the economic development process, a process broadly defined to include the actualization of personal and communal potentialities in the society. Economic development translates into greater production and productivity and the provision of avenues which allow the less fortunate to realise some of their potential. Information, the raw material for knowledge is therefore perhaps the most important factor in socio-economic development.

The result of a survey of information use and users done for one territory in the area has indicated that economic, marketing and demographic data represent the main areas of vital information needs of most information or knowledge workers in both private sector and public sector enterprises. This increased need for up to date marketing, consumer, financial, wage and economic data has created a fast growing market and survey research industry which is the most heavily used information source in the private sector.

Several sectoral information systems designed to support the work of regional policymakers, planners, technocrats, researchers and entrepreneurs in enunciated priority areas – agriculture, energy, industry, trade, finance have been developed by libraries in the area. Most of these are decentralized, cooperative, sectoral information networks while a few are based on the resources of specific institutions. They offer a variety of services in formats appropriate to their users.

This paper presents three case studies of efforts made by some of the English-speaking territories to mobilize their resources to assist in the provision of information for knowledge, literacy and development. The choice of examples has been demarcated by a desire to cover as many territories as possible within the mandate circumscribed by the three subject areas and covering service to a broad cross section of Government planners, industry and the general public. Examples have therefore been taken from library and information services in Trinidad, Jamaica and the Organization of Eastern Caribbean States, a grouping of eight smaller territories – Antigua and Barbuda, The British Virgin Islands, Dominica, Grenada, Montserrat, St. Kitts and Nevis, St. Lucia and St. Vincent and the Grenadines – which have joined together to provide a more economically viable unity.

Information for industrial growth (Trinidad)

An interesting and dynamic mobilization of resources in the provision of information for industrial growth of the region is actuated by the Caribbean Industrial Research Institute (CARIRI) through its Technical Information and Liaison Service Division. Most of the services and projects of the Institute have evolved as a result of actively identifying user needs, and by responding to these information needs by means of aggressive marketing techniques. A proactive approach is used in the collection of relevant technical information, its storage, retrieval and dissemination, more particularly to small and medium sized industry in Trinidad and Tobago in particular and in general to the wider Caribbean. Some 69% of information requests originate from small- to medium-sized industry and potential entrepreneurs.

Information services at CARIRI have been channelled into the individualised, customized sort, tailored to meet the specific needs of the clientele, whether these be the small entrepreneurs or the decision makers in government. The service focusses on access to content within publications and the provision of answers to specific questions rather than the provision of subject bibliographies or references to possible sources.

Some 1,000 requests on average are handled each year, since the initiation of the service in 1970, with a peak in 1987 of 1,288 requests. In that year, 43% of the users of the services needed information on manufacturing processes and technical knowhow, 16.2%, information on tests, standards and specifications, 13% needed information on equipment, machinery, product and ingredient suppliers as well as suppliers of services, while only 6.1% of requests dealt with the supply of publications.

Recognizing the strength of information technology, they have moved into this area by offering a service permitting rapid access to information and filling needs in the shortest possible time.

Access to overseas commercial data bases is maintained (a) to review the state of the art in particular areas of technology, (b) to obtain current listings of plant and machinery suppliers, (c) to search for patents and trademarks, and (d) to obtain information on potential companies with whom the local or regional businessman may wish to do business.

CARIRI has exercised various methodologies to disseminate technology information to users and potential users. Of these the technical seminar or workshop has proven to be extremely effective. One workshop "Information for Industrial Growth" held in late March 1990 was part of the Canada-based International Development Research Centre (IDRC) project "Industrial Information and Communication". The workshop included case study sessions conducted by selected industry leaders as well as a talk on "Market Access: the information connection" given by the institution's information specialist. These workshops not only disseminate information but also allow participants to get hands-on experience, and have the added advantage of putting groups with similar interests in touch with each other. As a result, local trade associations, for example, for ceramics and foundry work have been formed.

The main objectives of the IDRC project are:

(1) to strengthen and improve CARIRI's capabilities in promoting the use and application of technical and industrial information as an input to the solution of technical and managerial problems in industry, and

(2) to establish the infrastructure for an industrial information extension service with capacity for ongoing identification of the changing technical needs of industry, thus allowing the institution to respond effectively to these needs.

Another project executed with assistance from the Organization of American States (OAS) included the preparation of a video tape, *Computers and Kings:* "Organizing a Technical Information Service for the delivery of information to users in industry". This video tape is used to sensitize management of small industries to the importance of technical information to their firm's profitability and progress, and can also be used to train and sensitize staff in information centers serving industry to the need for information outreach in serving users, thus further mobilizing library resources for development. The video tape has been distributed throughout the English-speaking Caribbean.

Resource sharing for development – organization of Eastern Caribbean States

The Organization of Eastern Caribbean States Information Network (OECS INFONET) began operations in July 1987 to create a sub-regional database coordinated in the OECS Secretariat in St. Lucia for its member states. It is both an information system, utilizing the

CDS/ISIS software package, and an information service with an underlying objective to provide information support to socio-economic development activities. The subject areas covered are those considered to be a priority in the context of development aspirations – agriculture, trade, industry, tourism, education, energy, housing, health, law and international affairs.

The network is intended to provide a broad based system of information for the variety of units and activities which the Organisation of Eastern Caribbean States carries on, and which it carries on also in relation to various departments of the national participating governments.

While a certain emphasis is put on the relationship with policy makers, planners and technical and administrative personnel in Government Ministries of Planning and Information, the services of the network are also made available to students, researchers and members of the business community. Indeed, use of the network by students seems to have outstripped that by government employees.

As part of the service provided by INFONET, copies of documents held in the database are made available on request subject to size and distribution. Availability of documents may be general, limited, restricted or confidential, and documents are made available to the system on condition that distribution restrictions are observed. Requests are directed to the coordinating centre which has the documents, and photocopies are provided free of cost to OECS Government personnel, while all other persons are required to pay a per page fee to cover photocopying costs and postage.

To ensure that users are aware of, and have access to, information from the data base, the *INFONET Current Awareness Bulletin,* a selection of the latest additions, is issued monthly. Items are listed in the sequence in which they are entered, and entries contain full bibliographic information as well as an abstract, subject fields and location of the item. A Subject Index is also provided in the *Bulletin.* Figure I provides the format of a sample entry. Specialized bibliographies are also compiled and issued periodically to appropriate users.

Figure I
Entry from *INFONET Current Awareness Bulletin*

Item No.: 3449
OECS Economic Affairs Secretariat.
OECS Strategy for reconstruction and rehabilitation hurricane Hugo, 9+2p.
OECS Central Secretariat. Castries, Saint Lucia. November 1989. Meeting of the Authority, 16.
Sponsors: OECS
Castries, Saint Lucia. 20–24 November 1989.
Draft Emergency Powers (Disasters) Act is attached.
Abstract: The rehabilitation strategy, coordinated by the OECS should aim at revitalization of productive sectors, upgrading infrastructure, replacing low-cost housing, improving health services and establishing a regional capability for disaster preparedness in the OECS and CARICOM.
Subjects covered: OECS; Natural disasters; Storms; Emergency relief.
Availability: Restricted. Location: OECSCS.

Documents are usually supplied to requesters via air mail, but the services of persons travelling on Government business are also utilized as a means of courier service. This method of service has become a common form of delivery in an area where postal services can be tardy and therefore not reliable. While commercial courier service and telefax is available, these are infrequently used due to high telecommunication costs. Users are encouraged to make

requests as far in advance as possible so that the most economical means of document delivery may be used in an effort to supply information speedily.

Advancement of literacy (Jamaica)

In 1972, the Government of Jamaica decided to make literacy a national priority and to launch a vigorous and massive attack on illiteracy. It is not without significance that this advance against illiteracy was at a time when the sociopolitical consciousness of the country was undergoing rapid evolution. At that time it was estimated that a 40% illiteracy level, representing 400,000 persons obtained. This, to some, alarming rate of illiteracy could have been higher had it not been for the extremely valuable contribution of the Jamaica Library Service, an islandwide public Library service of thirteen Parish Libraries in over 700 service points of full and part-time branches, book centres, bookmobiles, stores and special service points in hospitals and correctional institutions.

The Jamaica Movement for the Advancement of Literacy (JAMAL) Foundation was established in 1974 to operate the programme in an effort to eradicate illiteracy, by improving the literacy skills of the adult population and going beyond this by enabling them to participate meaningfully in the economic, social and cultural enrichment of that society. Today with the assistance of the Jamaica Library Service the level of illiteracy has been decreased to less than 300,000 or 18% in 1987.

The task of the public library service has been to provide suitable reading material of all kinds for the literate population. A persistent problem has been the lack of low level reading material with the appropriate interest level for adults. The problem becomes not only the unavailability of suitable titles on the commercial market but also the added high cost of importing books and the extremely limited budgets of most library services in the developing world. JAMAL has developed, produces and publishes its own local literacy materials which can motivate adults to learn to read by linking this material to personal goals relevant to the interests and needs of housewives, industrial workers, labourers. This material forms a part of the collections of the public library service, as the system has taken a more dominant role in providing follow-up material and attractive programmes to assist in preventing large groups of new readers from lapsing into illiteracy through insufficient practice of the newly acquired skills.

Surveys have indicated that the highest percentage of illiterates are found in the lowest occupational categories, for example, independent farmers and unskilled workers. It has also been found that the rate of illiteracy increases as one moves from the more urban parishes of the island to less urban ones, this variation being perhaps related to differences in the provision of educational facilities. The public library system, by the development of a network of public libraries in over 212 service points (with over 500 Bookmobile stops) has mobilized resources to overcome the drawbacks of environment related characteristics such as locale. In so doing the Jamaica Library Service has had to reach out into communities to seek a clientele of readers and encourage the reading habit among adults with a long and very strong oral tradition wihle at the same time assisting the young to attain fluency and proficiency in reading and to develop an interest in reading for pleasure.

The successful achievement of JAMAL brings to the doorstep of the public libraries new adult readers who have been brought to a level of functional literacy by the JAMAL programme. At the start of the programme it was immediately recognized that public library services had a valued role to play in developing the functional literacy of the graduate of the programme. Thus the libraries have been taking a more dominant role in providing follow-up material and attractive programmes to help to prevent these large groups of new readers from lapsing into illiteracy through lack of practice of their newly acquired skills.

Booklists for new literates are produced and distributed and book exhibitions prepared by the Library are displayed at JAMAL functions. Contact and awareness are kept alive as all parish librarians are members of the JAMAL Parish Committees, and take an active part in mounting displays (including library material) on JAMAL activities. In addition, activities are designed for the more general reader to encourage reading, inculcate the reading habit, develop and broaden reading skills, and encourage the proper use and care of books.

All parish libraries carry out extensive programmes of activities for children over the summer holidays. The main activities include music appreciation, a wide variety of craft projects, and reading projects including a National Reading Competition, all designed to facilitate the learning process.

National Reading Competition. This was begun in 1988 to coincide with the 40th anniversary of the Jamaica Library Service. The competitors are elected from Parish Reading Competition where contestants are required to read, assimilate and answer questions on between twelve to twenty books, selected for specific age groups and chosen by librarians and read in a two to three week period. The National Competition attracts a further reading of four books over a one-week period with another oral question and answer period including a summary of the four books, which is televised to the nation, before a panel of judges.

Poster competition, at exhibitions and competitions, story hour programmes, all have been an integral part of the programme of bringing books and children together, in an effort to develop good reading tastes. Story hour programmes have also been supplemented and supported by video expositions of books in the Library, music and games. These support mechanisms encourage the individuals to read material about what they have seen and heard.

Community information service, geared toward the common man is in operation at two rural parish libraries – in St. James (1986) and St. Ann (1989). It is hoped to extend the service to all parishes. The service was made possible through a Unesco pilot project, and demonstrates a positive effort to make the traditional information function of the library become more cognizant of, and conform to the level of the daily necessities of the society.

It supports the JAMAL publications which links reading material to relevant needs and interests of the common man and extends these. The service is operated from a room near the entrance to the individual library which is solely dedicated to that purpose. The information provided is adopted to the needs and capabilities of the users and is available to all persons and not only registered readers. This dynamic approach to accessing information embodies identifying and recognizing needs and collecting, organizing and packaging information in the most appropriate forms for specific client needs.

Conclusion

If a library is to serve its clientele, it should assess in concrete terms its delivery service to its users. Although in developing countries, economic constraints will undoubtedly hinder the provision of some services to users, yet much can be done in individualizing service.

Third World librarianship necessitates the application of resourcefulness. A World Bank survey of educational research reports shows that industrial or developed countries invested in 1980 fifty times more per pupil than did the thirty-six countries with per capita incomes below $265. Investment in educational activity does not by itself determine the efficiency or effectiveness of the educational system. Library and information resources become important from the point of view of their tangible contribution to the society as a whole through an active programme of dissemination of information.

Above all, there needs to be initiative, creativity and innovation in bringing together resources and opportunities into successful undertakings. Such initiative can only come from the human agents, the information facilitators.

A poor economic climate, foreign currency restrictions, exchange rate fluctuations and escalating book and journal prices is a heavy imposition on library and information services in the English-speaking Caribbean, but social conditions have created an extraordinary need for library and information services. Indeed there is a substantial unsatisfied demand for such services in all the territories. The Library services will benefit from increasing support if there is widespread awareness of their potential contribution to development.

Los Recursos Bibliotecarios en América Latina Panorama general.

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Resumen

Los países latinoamericanos conforman una región que lucha por un desarrollo económico, social y cultural que le permita salir de la crisis en que se encuentra para poder ofrecer a sus habitantes una vida más digna y más justa. En el campo de las bibliotecas se manifiestan los contrastes económicos que se dan en los demás aspectos del desarrollo de la región y aunque aún falta conciencia sobre el valor de la biblioteca como elemento de desarrollo y no se cuenta con los recursos económicos necesarios para mejorar los servicios, son muchos los logros que se han tenido en los últimos años: Se ha avanzado en la formación de recursos humanos con el establecimiento de escuelas de biblioteconomía en casi todos los países de la región; la planeación y cooperación han llevado a un mejoramiento de las bibliotecas públicas, universitarias y especializadas, se ha incrementado el número y la importancia de las asociaciones de bibliotecarios.

Es así que los recursos bibliotecarios en América Latina cada día cobran mayor importancia como apoyo para el desarrollo del alfabetismo, el conocimiento, la investigación y el desarrollo general de sus países.

Las naciones latinoamericanas por su historia, por su cultura y por la semejanza de sus problemas contemporáneos conforman una región que lucha por un desarrollo económico y social que le permita salir de la crisis en que se encuentra para poder ofrecer a sus habitantes una vida más digna y más justa. Desde el punto de vista económico las naciones latinoamericanas pertenecen a la categoría de países en desarrollo y sus bibliotecas reflejan marcadamente esta designación. Pero a pesar de la aguda crisis económica y los serios problemas sociales por los que está pasando, el proceso de renovación y modernización de América Latina es evidente y esto se refleja necesariamente en sus actividades educativas, culturales y en sus bibliotecas. Se puede decir que la mayoría de los países de la región, especialmente Brasil, Argentina, Venezuela, Colombia y México, son países de contrastes en los que el desarrollo y el subdesarrollo coexisten. En el campo de la Bibliotecología se pueden encontrar bibliotecas totalmente automatizadas, con terminales conectadas a los bancos de información internacionales y bibliotecas con las necesidades técnicas más elementales.

En 1960 Carlos Víctor Penna dijo que "a pesar de la similitud que en muchos aspectos ofrecen los países que integran la América Latina sus características particulares son a veces tan distintas que limitan en cierta forma las comparaciones que requieren estudios de esta naturaleza. El mismo problema del analfabetismo cuyos índices señalan las posibilidades de la acción bibliotecaria es marcadamente variable entre unos países y otros".[1] Este problema social ha mejorado notoriamente en los 30 años que han transcurrido y "se ha producido un saludable efecto en las bibliotecas creando un mercado para sus recursos y servicios", por ejemplo Penna señalaba tasas de analfabetismo del 12 al 19%, porcentaje este último que ya no se presenta en ningún país de la región. Actualmente encontramos desde el 2.2% de analfabetismo en Cuba, hasta un 45% en Guatemala y un 78% en Haití.[2] La tasa de escolaridad media es también variable en cada país, pero en América Latina aún no pasa del nivel primario.

Otras particularidades externas que inciden en los servicios bibliotecarios son: la extensión geográfica, las dificultades de comunicación, la densidad de población por km^2 (19 habitantes por km^2) si bien hay grandes desequilibrios en la distribución de la población que cada vez se concentra más en zonas urbanas; así México tiene una cuarta parte de su población en el Valle de México, Buenos Aires la tercera parte y en Brasil se concentra en el litoral. Lo anterior hace que el crecimiento urbano sea muy alto. Se calcula que ahora la población rural es del 40% y la urbana del 60%. Otro aspecto es el crecimiento de la población, en 1980 América Latina tenía 361 millones de habitantes, en 1985 ascendieron a 405 millones de los cuales 235 millones 274 mil son menores de 24 años. Este problema afecta todos los aspectos de los servicios bibliotecarios: los usuarios, los acervos, su organización y renovación, los hábitos de lectura e intereses de niños y adultos. También hay que tener en cuenta la variedad de necesidades que los gobiernos tiene que atender antes que los servicios bibliotecarios, como son los servicios de educación, de salud, agua, electricidad, drenaje, caminos, etc. Además se encuentra que en muchos países ha habido un alto grado de centralismo en la toma de decisiones "todo debe ser decidido en la capital" y poco o nada se deja a la iniciativa local.

Al hablar del desarrollo bibliotecario en América Latina hay que tener en mente ciertos factores comunes a todos los países que tienen un valor para determinar el grado de avance de las bibliotecas de la región.

Estos factores son:

Falta de conciencia sobre el valor de las bibliotecas y escasez de recursos asignados. Aunque se puede afirmar que en los países latinoamericanos no existe aún una concientización por parte de las autoridades y la sociedad sobre la importancia de las bibliotecas y sus servicios y que por tanto no reciben el apoyo gubernamental y los recursos económicos suficientes para contar con la infraestrutura necesaria para su buen funcionamiento, en las últimas décadas se ha contado con un mayor apoyo pués es indiscutible que las actividades bibliotecarias y de información han crecido, los servicios se han mejorado y amplidado, se ha registrado un adelanto evidente en todo tipo de bibliotecas (con excepción de las escolares) y las diferentes comunidades a las que se sirve han demostrado mayor interés por los servicios bibliotecarios.

El incremento en la mayoría de los países latinoamericanos de las bibliotecas públicas, universitarias y especializadas es realmente notorio y aunque es lamentable no poder proporcionar cifras que comprueben esta afirmación baste decir que Penna señalaba que en 1960 había cerca de 7 mil bibliotecas en la región según estimación de la OEA y que en la actualidad sólo en Brasil hay cerca de 19 mil y México cuenta con 5 mil. Por otro lado muchos de nosotros hemos sido testigos del desarrollo de las bibliotecas en nuestros países y del espacio cultural que ocupan.

En cuanto al desarrollo que han tenido los diferentes tipos de bibliotecas se puede decir que fuera de las escolares, todas han mejorado y ampliado sus servicios y crecido en número.

Las bibliotecas universitarias que ocupan el segundo lugar en excelencia de organización y servicios, sólo superadas por las especializadas, se encuentran en una etapa de desarollo muy importante. En la mayoría de los países se tiende a la creación de sistemas de bibliotecas universitarias y a la centralización y coordinación de actividades y procesos dentro de cada universidad. En Brasil ésto empieza a darse después de la Reforma Universitaria de 1972. En Venezuela el Sistema Nacional de Servicios de Bibliotecas e Información (SINASBI) coordina el sistema bibliotecario nacional dentro del cuál están comprendidas las bibliotecas universitarias que han podido aplicar técnicas modernas para su mejor organización y funcionamiento, en Argentina existe la Red Nacional de Bibliotecas Universitarias (RENBU) y en Colombia el Instituto Colombiano para el Fomento de la Educación Superior (ICFES) coordina el Sistema de Información para la Educación Superior. En México, si bien no existe aún

un sistema coordinador de las bibliotecas universitarias, las Secretaría de Educación Pública y la Asociación Nacional de Universidades e Instituciones de Educación Superior (ANUIES) están llevando a cabo actividades que permitan una mayor comunicación y cooperación entre las bibliotecas universitarias del país. En Cuba se ha organizado una Red de Bibliotecas Universitarias coordinadas por la Dirección de Información del Ministerio de Educación Superior. Como se puede ver éstas tendencias tiene como finalidad apoyar con mayor eficiencia las tareas de docencia, investigación y difusión de la cultura.

En relación con las bibliotecas especializadas, Penna decía en 1960 "El desarrollo más notable alcanzado por las bibliotecas de América Latina lo registran las bibliotecas especializadas. En virtud de las necesidades de investigación en todos los campos, especialmente en los de técnica y de la ciencia, estas bibliotecas se han multiplicado, cuentan con adecuados recursos y muchas de ellas resultan buenos exponentes de organización y eficiencia"[3] y esto es válido para la actualidad, las bibliotecas y los centros de información que funcionan en los campos de la agricultura, la medicina, la energía nuclear y eléctrica, el petróleo, etc. son ejemplos de competencia y adelanto.

Las bibliotecas públicas o populares han corrido con diferente fortuna en los países de América latina, mientras que en Colombia, Venezuela, Argentina, Brasil, México y Cuba entre otros, se han desarrollado sistemas de bibliotecas públicas eficientes, otros no han logrado todavía contar con un buen servicio de este tipo de bibliotecas, Emir Suaiden dice que esto pasa porque no existe una concientización real por parte de las autoridades y del pueblo en cuanto a la importancia de la biblioteca pública y de su relación viva con la comunidad. Lo que existe es un esfuerzo por parte del profesional bibliotecario en su intento de cambiar esta situación y que sin duda hay muchas barreras que vencer. La falta de una política adecuada aliada a la permanente carencia de recursos financieros para esta área han provocado un serio problema ya que la mayor parte de la población latinoamericana no ha adquirido aún el hábito de la lectura, sigue siendo una sociedad con más tradición oral que textual.

Actualmente la demanda de material de lectura en las bibliotecas públicas es muy grande porque funcionan como bibliotecas escolares, el desarrollo demográfico está formado por un gran porcentaje de niños y jóvenes ya alfabetizados que necesitan estos servicios para apoyar su educación formal e imponen un esfuerzo sistemático y sin precedentes. Las bibliotecas públicas son el lugar de estudio de esos jóvenes que no tienen en su casa un lugar adecuado para estudiar y es por eso que es una situación común en todos los países de América Latina que los libros de las bibliotecas públicas sean poco solicitado para préstamo a domicilio. De allí la importancia de unas buenas instalaciones. Las bibliotecas públicas han mejorado notoriamente en Brasil por la actividad desarrollada por el Instituto Nacional del Libro, están floreciendo en Venezuela por la coordinación que lleva a cabo el Instituto Autónomo, Biblioteca Nacional y de Servicios Bibliotecarios y destacan los servicios que prestan a la comunidad en todos sus niveles nacional, estatal y municipal. En México durante el gobierno pasado se desarrolló el Programa Nacional de Bibliotecas Públicas que permitió que en seis años se abrieran 3047 bibliotecas en todo el país. Cuba y Colombia son también países que han apoyado y fortalecido los servicios de sus bibliotecas públicas.

Sobre este punto podemos concluir que si bien todavía falta mucho por hacer, son mucho los logros obtenidos.

Formación de recursos humanos. Uno de los progresos más firmes y valiosos de la profesión es el establecimiento de escuelas de bibliotecología y ciencias de la información en todos los países de América Latina, menos Haití y Honduras. Los 19 países restantes cuentan con una o varias escuelas de la especialidad. De acuerdo con la *International guide to library and information science education,* publicado por IFLA, en América Latina hay 73 escuelas de biblioteconomía distribuidas como sigue:

PAIS	*No. DE ESCUELAS*	*OBSERVACIONES*
1. Argentina	13	1 Curso de Maestría
2. Bolivia	1	
3. Brasil	31	6 Cursos de Maestría y 1 de Doctorado
4. Chile	1	
5. Colombia	4	
6. Costa Rica	1	
7. Cuba	1	1 Curso de Maestría
8. Ecuador*		
9. El Salvador	1	
10. Guatemala	1	
11. México	7	3 Cursos de Maestría
12. Nicaragua	1	
13. Panamá	1	
14. Paraguay	1	
15. Perú	2	
16. Puerto Rico	1	1 Curso de Maestría
17. República Dominicana*	1	
18. Uruguay	1	
19. Venezuela	3	1 Curso de Maestría
	73	14 Cursos de Posgrado

* Datos no tomados de la guía de IFLA

De acuerdo con los datos proporcionados por las escuelas, hay una marcada feminización de la profesión, pues la mayoría de los estudiantes inscritos está compuesta por mujeres.

También encontramos que la enseñanza de la bibliotecología en América Latina se ha normalizado, los estudios de licenciatura que ofrecen la mayoría de las escuelas tienen una duración promedio de cuatro años. Las maestrías generalmente son en bibliotecología y ciencias de la información y duran entre dos y tres años. Todos los estudios están aprobados por el órgano oficial de educación de cada país y algunos regulados por ley como es el curriculum mínimo que se sigue en Brasil a partir de agosto de 1982 dictado por el Conselho Federal de Educação. La curricula de las escuelas es más uniforme y la enseñanza se ocupa ya de cuestiones de automatización, planeación, biblioteconomía comparada, redes y sistemas, perspectivas de la profesión.

Un problema al que se enfrenta la mayoría de las escuelas es la falta de maestros de tiempo completo, lo que sin duda incide en la calidad de la enseñanza. Gracias al funcionamiento de estas escuelas se ha formado el personal profesional con el que se cuenta hoy en América Latina. Además de aquellos que estudiaron en países extranjeros, especialmente Inglaterra y Estados Unidos. En esos países se formaron los doctores de la profesión que hay en Brasil, México, Costa Rica, Argentina, etc.

Desgraciadamente no podemos dar el número de profesionistas que tenemos, pero sólo en Brasil se habla de más de 20.000 bibliotecarios.

Legislación. Existen ya en la mayoría de los países leyes relacionadas de menos con algún aspecto de la biblioteconomía, como son las del depósito legal, el derecho de autor, el reconocimiento de la profesión, la creación de sistemas nacionales de bibliotecas y de servicios de información, la ética profesional, etc. Así tenemos que en países como Cuba, Colombia, Pa-

namá, y Brasil por ley se reconoce a los bibliotecarios como profesionales y se regula la profesión estableciendo que todos los cargos de dirección de bibliotecas y de puestos profesionales deben ser ejercidos por bibliotecarios profesionales.

La existencia de estas leyes está plenamente justificada porque responden a una determinada necesidad social, pero el problema está en que muchas de esas disposiciones no se cumplen, sucediendo ésto aún en países como Brasil que se ha distinguido en la lucha por el reconocimiento y respeto de la profesión. La invasión del trabajo bibliotecario por profesionistas de otras especialidades, ingenieros, sociólogos, abogados, sigue siendo una práctica común en nuestro medio y por tanto un punto prioritario y preocupante de estudio para investigadores y para formación de recursos humanos.

Planeación y cooperación. Si bien la biblioteconomía latinoamericana se ha caracterizado por su individualismo, lentamente ha ido caminando hacia una estapa de unificación, de integración y de cooperación. La cooperación está siendo reconocida como una manera de trabajar eficientemente con escasos recursos. También se trabaja ya en varios países siguiendo planes o programas de desarrollo bibliotecario que han llevado al mejoramiento de los servicios. Podemos mencionar el desarrollo de la Red de Bibliotecas Públicas en Brasil coordinada por el Instituto Nacional del Libro, el Programa de Desarrollo de Bibliotecas Públicas y Escolares de Venezuela dirigido por el Instituto Autónomo Biblioteca Nacional, el desarrollo del Sistema de Información para la Educación Superior, impulsado por el ICFES, y del Sistema de Bibliotecas Públicas auspiciado por COLCULTURA en Colombia; en Cuba funcionan las Redes de Bibliotecas Escolares y la de Bibliotecas Públicas; la Red de Bibliotecas Públicas en Nicaragua y el Programa Nacional de Bibliotecas Públicas en México a partir de 1983.

También existen proyectos de cooperación regional como el de la región andina y se participa en sistemas de información internacionales como el INIS, AGRIS Y ASFA. Pero ciertamente, aunque hay estos planes nacionales y se participa en estos sistemas internacionales de información, todavía en la región cuenta mucho la "voluntad política" para el avance y el éxito de estas actividades.

Escasez de información estadística. Hay una carencia generalizada de información sobre bibliotecas y servicios de información que hacen dificiles los estudios cuantitativos o comparativos. La falta de estadísticas bibliotecarias confiables y publicadas con regularidad es un hecho común en América Latina. Esta información es imprescindible para cualquier estudio preliminar sobre planeación bibliotecaria y un auxiliar valioso para la ejecución de cualquier plan destinado a extender y mejorar los servicios. En este aspecto no hemos avanzado, basta consultar el *Anuario Estadístico* de UNESCO para darnos cuenta de la poca seriedad con que se informa sobre las bibliotecas de la región. Por ejemplo en el *Anuario* de 1987, Argentina informa sólo tener 63 bibliotecas especializadas y Costa Rica una universitaria.

Influencia extranjera, Investigación y Literatura Bibliotecaria Latinoamericana. La biblioteconomía latinoamericana ha seguido modelos extranjeros a lo largo de los años en que se ha desarrollado. Nuestra profesión, hasta el presente, ha sido muy dependiente de la biblioteconomía extranjera en especial de la norteamericana, aunque en los últimos años se ha dejado sentir la influencia inglesa, numerosos bibliotecarios han hecho sus estudios en esos países, se usan las reglas de catalogación angloamericanas, las clasificaciones Dewey y Library of Congress, la automatización está fuertemente influida por MARC y los avances tecnológicos y administrativos provienen de esos países, estos factores confirman lo que un colega llama "un cuadro de dependencia intelectual que nos ha enajenado a una relación acrítica y lo que es más serio nos ha impedido ser productivos y ser creativos en la búsqueda de soluciones propias a problemas que nos son propios".[4]

La escasez de investigación y teoría bibliotecarias es notoria, Juárroz dice que "no podemos pretender que se nos respete y considere como profesionistas autónomos si no cumpli-

mos más acabadamente con los requisitos intelectuales y aún epistemológicos o científicos que exige esa condición".[5] De hecho no habido espacio para la investigación y esta sólo se ha realizado de manera esporádica y fragmentaria con resultados débiles orientados a la práctica inmediata. Casi es inexistente el cuestionamiento sobre lo que estamos haciendo y el porqué y el cómo se está haciendo.

En la actualidad únicamente en México y Argentina existen centros dedicados exclusivamente a la investigación, estos son el Centro Universitario de Investigaciones Bibliotecológicas (CUIB) de la Universidad Nacional Autónoma de México y el Centro de Investigaciones Bibliotecológicas de la Universidad de Buenos Aires.

Quizá producto de lo dicho antes es la carencia de literatura profesional en español y portugués. No sólo es necesario traducir textos de reconocido valor sino sobre todo estimular la creación y publicación de textos de la localidad. Todavía hay una excesiva dependencia de obras de los Estados Unidos y de Inglaterra y no hemos sido capaces de hacer nuestras propias herramientas sobre todo para la enseñanza; quizá ésto suceda menos en Brasil pero en la América Hispana, con excepción de Cuba, en las escuelas se usan libros extranjeros que describen condiciones que difieren grandemente de las que prevalecen en nuestros países.

Esto no quiere decir que no exista literatura en español y portugués, contamos con varias revistas que ya tienen permanencia y son producto de las asociaciones o de las escuelas. Otra importante fuente de publicaciones son las memorias de los congresos, jornadas y seminarios, indispensables para el estudio de la bibliotecología regional pero difíciles de conseguir fuera de su país de origen.

Hacen falta muchas obras de referencia.

El estatus del bibliotecario. Litton afirma en su ensayo que "aunque el número de profesionistas en América Latina sigue creciendo, sus salarios y su estatus no han mejorado proporcionalmente. La exagerada inferioridad de la biblioteconomía en relación con otras profesiones ha disminuído en ciertos países pero sentimos que la mayoría de los bibliotecarios latinoamericanos consideran su situación inferior especialmente cuando comparan salarios y estatus con sus colegas de otros campos".[6] Un aspecto que incide en este problema es el incuestionable predominio femenino en la profesión que se refleja en los bajos salarios. En algunos países los puestos de bibliotecario no son considerados profesionales.

Sin embargo el profesionalismo ha avanzado en algunos países, como en Brasil, Argentina y Cuba, como resultado del mejoramiento de la educación bibliotecaria y la ampliación de sus actividades culturales. Empieza a cambiar la imagen profesional aunque lentamente.

Las asociaciones profesionales. Se puede afirmar que todos los países de América Latina cuentan ya con un tipo de organización profesional a través de la cual los bibliotecarios intercambian ideas, se reúnen y cobran fuerza por medio de la unidad. Así tenemos el siguiente cuadro*:

*Fuente: Litton y Seminario Latinoamericano.

País	*Número de asociaciones*
1. Argentina	18
2. Bolivia	3
3. Brasil	25 1 federación
4. Chile	1
5. Colombia	9
6. Costa Rica	1
7. Cuba*	2
8. Ecuador*	1
9. Honduras	1
10. Guatemala	1
11. México	7
12. Nicaragua	2
13. Panamá	1
14. Paraguay*	1
15. Perú*	3
16. Puerto Rico*	2
17. República Dominicana	1
18. Uruguay*	3
19. Venezuela	2
	84

Existen también asociaciones regionales: AIBDA, ACURIL y ALEBCI. La mayoría de las asociaciones y colegios fueron creados en las décadas de los 50 y 60 como resultado de las actividades de la UNESCO y la OEA para el desarrollo de los servicios bibliotecarios y de documentación de la región.

Son las asociaciones las que empiezan y continúan organizando jornadas, congresos, seminarios y cursos de capacitación y educación continua y es en esos foros dónde se cuestionan y exponen los problemas bibliotecarios y la situación que guardan las bibliotecas en cada país. Las asociaciones han trabajado con una serie de limitaciones de tipo económico, organizativo, etc. que han impedido su mayor desarrollo. Sin embargo es mucho lo que han hecho por la profesión, han trabajado en el campo de la normalización, de la legislación, de la ética profesional, han publicado y fomentado la investigación.

Varias de las asociaciones están afiliadas a IFLA, cada vez más participan en las reuniones internacionales y la presencia de América Latina cobra más fuerza dentro de la Federación.

En 1987 se celebró en Caracas el Primer Seminario Latinoamericano de Bibliotecarios y Profesionales Afines, auspiciado por IFLA.

El impacto de la tecnología. El uso de los avances tecnológicos en los servicios bibliotecarios, especialmente los adelantos de la computación es un proceso que ha estado introduciendo cambios profundos en el mundo de las bibliotecas y centros de información. Estos cambios son justificados en la medida en que vivimos inmersos en una sociedad que cada vez más se acostumbra a las computadoras y al manejo de la información por medio de ellas. En la mayoría de los países latinoamericanos los trámites bancarios, las reservaciones en los aviones, el manejo de cuentas de luz, teléfono, impuestos se hacen ya por medio de computadoras. Las bibliotecas como sistemas de información requieren de una actualización permanente en cuanto a procedimientos, métodos y recursos técnicos de que se valen para cumplir con sus metas. Por tanto para organizar y hacer accesible con más éxito la información, se hace necesario planear nuevas soluciones que permitan no sólo más eficiencia en el manejo

de esa información, sino lograr una mayor eficacia en tiempo, costos y procedimientos. No hay que olvidar también la importancia que tiene la imagen de una biblioteca ante una sociedad dinámica y cambiante.

El desarrollo de la industria de la informática en algunos países de América Latina como Brasil y México, entre otros, ha hecho que le presencia y el uso de las computadoras en la educación superior, en la investigación y las bibliotecas sea ya una realidad que no puede soslayarse. Si a eso añadimos el avance de las telecomunicaciones y la presencia de satélites artificales como el Morelos en México y el Brasilsat en Brasil, es notorio y acelerado el proceso de automatización de algunos sectores de información de la región.

El crecimiento de cursos de capacitación de recursos humanos en el área de la informática ha sido extraordinario en todos los niveles y la tendencia es que se incrementen en calidad y cantidad. También el impacto de las nuevas tecnologías ha sido motivo de numerosos seminarios, congresos y coloquios en toda el área.

Otro aspecto interesante es el uso de softwares tanto internacionales como MINI-ISIS y MICROISIS y el interés por desarrollar softwares propios y que respondan a las necesidades nacionales; en México tenemos LIBRUNAM, SIABUC, LOGICAT, etc. MICROISIS se ha generalizado mucho en la région promovido por UNESCO. Ha cobrado importancia la creación de bancos de información que satisfagan las necesidades locales y se ocupen de la información bibliográfica, de datos estadísticos, de patentes generados en el país. En varios países se está trabajando con intesidad en estos bancos.

También se maneja en la región el correo electrónico que posibilita el intercambio de mensajes entre usuarios con las redes nacionales e internacionales de información; así como el uso de CDROM para proyectos nacionales y regionales.

Sin embargo, hay que reconocer que América latina aún no entra en la éra de la información, tal como se concibe en los países avanzados, la información no se ha convertido todavía en un recurso estratégico para el desarrollo, así vemos que a pesar de los grandes avances que ha habido en la bibliotecología latinoamericana aún hay muchas bibliotecas que carecen de recursos técnicos elementales y desconocen la organización y los servicios modernos de información, éstas coexisten junto a bibliotecas que viven en el mundo de la electrónica, la telemática, la revolución de la información, están conectadas a los bancos internacionales de información y tiene a su disposición computadoras para la organización de sus servicios, la desigualdad es una realidad y se da en la mayoría de los países de la región.

Tal vez el punto clave del futuro de la biblioteca en América Latina sea la actitud del bibliotecario ante el usuario, ante la comunidad y ante la educación.

En conclusión, podemos afirmar, que a pesar de las carencias señaladas, los recursos bibliotecarios con que cuenta la América Latina para apoyar el alfabetismo, el conocimiento, la investigación y el desarrollo, cada día se incrementan y adquieren mayor importancia.

Notas

1. Carlos Víctor Penna, *La bibliotecología latinoamericana,* Tucumán, Universidad Nacional. Biblioteca Central 1960. p. 13.
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Public Libraries, Information and Citizenship

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Abstract
Public libraries in developing countries are involved with the provision of community information services to the general public. These services intend to make people aware of the value and need of information, and to motivate its use. The paper describes, briefly, a project developed in São Paulo, Brazil, to reach low income population and to help each individual's fulfillment of his citizenship. At long range, community information services pretend to promote the use of information as a culture attitude.

In Latin America and the Caribbean many regional networks such as LILACS (Literature on Health Sciences by authors of the Region), have been developed in recent years, and access to databases is becoming a common practice in universities, research centers and main business corporations. This shows that at least scientists, industrialists, and businessmen are aware of the value of information for scientific, technological, and economic development.

On the other hand, the majority of the population ignores the value of information for the solving of daily problems, for social mobility, and for participation in a democratic society. This gap between the so called elite of a country and the common people can be compared to that one existing between developed and developing countries. Information appears again, as one of the indicators of this gap.

Public libraries in developing countries have been trying to carry out community information systems as a means of spreading the use of information as a cultural attitude. Venezuela is the country where community involvement has been emphasized and where the mentioned service plays an important role in the public library system (1).

The lack of articles on community information services in library journals, sometimes the most accessible source of information in our countries, was a major obstacle for my identification of other experiences in the Region. This same fact is the probable cause of a single citation to a country in the Region, Jamaica, in the paper "Rural community information services" (2).

Literature on the subject may be scarce, but not the care for it, as stated in the Seminar on public libraries, held in Caracas, in 1982. In this meeting, a main proposal was the provision of alternative models for the organization of community information systems for public libraries (manuals and guidelines) (3).

As a contribution to the subject, this paper describes some of the problems affecting the use of information by low income citizens and mentions the project "Citizen Information System", developed in São Paulo to reach its population, specially those inhabitants living at the marginal areas of the city (4).

Unknown value, unknown need, in an unknown place

Polke (5) carried out a research study with the aim of verifying the flow of information in a low income quarter (bairro) in Belo Horizonte, capital of the State of Minas Gerais. She found out that information was obtained mainly, through friends, neighbours and relatives. Employment was one of the main worries of the local population, who also felt that information on jobs was hard to be obtained. People felt helpless before legislation, thus discouraged to fight for their rights. The author ends up stating that the lack of information was the cause of the low level of participation in community organizations.

Santos (6), in 1984, carried out another research concerning the needs of information of Northeastern migrants arriving in São Paulo and Brasília. Work in the big city was their main motivation for migration. Some of the following results are pertinent to our theme:

- 77–82% of the interviewed had not looked for information on Brasília or São Paulo before their departure. This represents that they did not have a need for information even in the situation of starting a new life in a strange and unfamiliar place;
- the few ones who looked for information had as their interest job opportunities, friends, and relatives;
- there was a lack of knowledge on the meaning and objectives of a library; most of the migrants had "heard of it", but they did not know "what is was".

Both researches acknowledge that information circulates mainly, "by word of mouth and personal recommendation" (2). Only informal sources (friends, family and relatives) were used, as also noted by Kempson (2). Thus, the situation in rural Africa is similar to that in some urban areas in Brasil. The explanation is simple, oral culture also prevails in Brasil where literacy rate is around 73,4%. Besides, Santo's research was carried out among rural migrants and Polke's in an urban marginal area in which people have problems similar to those of a rural population.

Community information service, as a formal channel, is supposed to provide information to a population that needs it for participation in a democratic society, for breaking away a condition of social alienation, and for an upward social mobility. However, this same population does not understand the value and advantages of information for the solving of daily problems, the reason why they do not feel a need for it.

Let us compare the situation of a library holding a community information service to that of a hospital with a service for a specific disease. A person may be sick, without knowing it, but at the first symptom of any disease, she knows where to go because health services (hospital and similar) have a known meaning and use (5). A person may have a need for information without being aware of it, but if she gets to realize the need, instead of going to libraries or to any organization with a similar service, she will look for informal sources.

In both cases, the knowledge of the need is helpful because it represents the possible cure of a disease or the solution of a problem. The specific services are available, at the hospital it will be used, at the library it might be used if a friend had heard of it. In both cases, libraries and hospitals have anticipated a need.

As the service in the library is neither the product of a demand nor the meeting of a need, one may say that a cultural elite is imposing an unneeded service to the gross mass of the population. In this case, however, the offer intends to create a demand, as it often occurs in cultural activities.

Presuming that community information service, or a structured formal information service, is needed, one may question the reason for having them in libraries.

First, public libraries in developing countries are, sometimes, the only institutions that recognize information as a right and a need. They are also willing to provide the service

intended at the satisfaction of this need. Second, libraries are associated with the learned society, as "a place for books" (6), a place where students search for knowledge or help to do their homeworks, as a place that solves some of the educational problems of the population. In most of the cases, the library is an institution trusted by people in search of knowledge. Third, libraries play an important role in the educational process by making people aware of a need and motivating the use of information, a new knowledge and a new ability. Fourth, where resources are scarce, they must be concentrated; so, it is rational to use existing buildings and services that have already a good image concerning transmission of knowledge.

The project citizen information system: known value, known need in a known place

Many factors have to be considered when planning a community information service: the use or non use of information, the flow of information in a community and many others mentioned in the literature (2, 7, 8). It has also been described the causes that difficult or prevent the use of information, such as: educational and cultural backgrounds, ignorance of the value of information as a means of the improving social conditions, dispersion of existing information, complexity of its presentation, excess of information as produced by mass media, etc.

Many needs have been appointed in several researches: health services housing, transportation, education (7). In a big city as São Paulo, other needs have been identified. For the rural migrant living in urban marginal areas, it is essential information concerning not only labour and jobs – the attraction of the city, but also continuing education – to keep a job or to get a better job in a competitive society. Information concerning constitutional rights is also highly necessary in places where, by ignorance of their rights, people feel helpless and unprotected (5).

In São Paulo, there is already a community information service in the central library that is used mainly by people and organizations that already know the value of information and where to get it. Expressing their worry with this situation, the workers of the public library system, gathered in an assembly, voted for the implementation of an overall system to reach people in the existing 56 service points. The main objective of this system is to make available information aiming at each individual's fulfilment as a citizen, an information system to citizenship (8).

The working group formed to draft the project proposed an information network with centralized processing and decentralized input and retrieval of information. The sharing of information collected by each participating library is a way of maximizing the use of resources. This would enable the reutilization of a research, avoiding, thus, the duplication and dispertion of efforts.

Computers, besides efficiently storing and retrieving information (9), have another advantage, the attraction of a new technology for people unused to it. As escalators and elevators still attract and scare people, the computer terminal available for personal use may cause the same effect.

Furthermore, the computer is a tool for the user to become himself a provider of information, in an active participation. A user seeing "his" information on the screen, will surely tell friends and neighbours about it, thus promoting the use of the system.

Some of these positions may sound naive as common man is someway. But he is also gifted by that natural wisdom that is a part of the culture of every nation in the world, an sometimes of the universal culture. Proverb may have different formal expressions in each language but, intrinsically, they have the same meaning.

The participation of the community or its members as information sources would be an

evidence of people's supporting the system, the beginning of that active participation that can lead to political awareness. We would then witness the longed for "democratization of information", information for the community, of the community, and by it as well.

Organizational aspects

The network is formed by:

- a central information agency, located at the main central library, that would coordinate the strategies for collection, control, storage and dissemination of information;
- participating units, branch libraries that would be responsible for cooperating in feeding the system, updating data, disseminating information, and for advertising the service to the communities to which they belong;
- coordinating body for the management of the system. It would be formed by a representative of the central unity, and two representatives of each zone of the city (a librarian and a member of the community). This body should choose a manager amongst its professional members.

Phases of the project

The project consists of four phases: pilot project, the evaluation of it, expansion of the network to reach seven more libraries, and implementation of the whole network.

The project has already overpassed its preliminary phase when the existing information service and the information provided by branch libraries were evaluated. It has also been made a survey of all existing information centers and services in the city.

For being a pilot project from which depends the implementation of the network, it is worthy to describe briefly the first phase. It consists of the following:

(1) input of the existing information in the central library;

(2) initial implementation of the network in two branch libraries, and

(3) access to two of the city data bases (legislation and directory for public services).

The libraries are located in two different zones of the city and reach communities of different social conditions. One of them is used only by children and adolescents, which calls for another project: the awareness of the use of information to citizenship from early childhood.

Pilot project: implementation steps

The following steps should be undertaken:

1. Development of a bibliographical collection for support;
2. Training of the staff on: data input, user's interview; recovery of information from the city data bases;
3. Data entry;
4. Installation of equipment and furniture in the participating libraries;
5. Maintenance of the files and feeding of information;
6. Dissemination of information;
7. Marketing of the service. It is the most important feature for creating a demand, making people aware of the need for information and motivating people to use it. In São Paulo, the following aspects should be taken into consideration: oral culture background, flow of information through informal channels, the amount of residences with a radio set (96%), the radio as one of the main sources of information for housewives, the interaction with community popular groups (religious, political, labor and minority grassroot organizations) (10), children as main library users and "as a medium of contact with adults" (11).
8. Continuous evaluation.

This brief description of some of the aspects of the project is a very simple contribution to the subject. Information services in public libraries aiming to reach those individuals in the local community who have a limited access to formal information resources could, at long range, promote a change in the cultural attitude of the population.

Conclusion

As a true representative of the soul and the culture of our Region, Jose Marti, an outstanding statesman, has a right word for any effort to cope with problems in Latin America and the Caribbean: "My sling is David's" (12). In fact, motivating the use of information by the general public, as a cultural attitude, and consequently contributing for a democratic society is a gigantic educational task for a David in the society communication network: public libraries.

To some degree, in developing countries, the problem of giving a new meaning to public libraries, that of a community information center is present in library policies of many countries. In search of this new image, public libraries could profit from the sharing of information through a "center of information and documentation on library services in Latin American and the Caribbean in rural and marginal urban areas" (11). In this case, librarians know the value, have the need but do not have the service to answer their need – the proposed center – in contrast to special librarians who already have the regional networks they need.

The network LILACS was mentioned at the beginning of the paper to serve as an example of an achievement attained in the Region, in Health Sciences. Scientific and technological information represents for the development of Science and Technology, what the use of information by the general public represents for socio-cultural development, hence the importance of community information services.

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IFLA GENERAL CONFERENCE STOCKHOLM 1990

Division: Regional Activities

Section/RT: WORKSHOP

131-REG(WS)-2

Technological Prospects for Libraries in Developing Countries

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IR053484

Keywords:

Technology
Developing Countries
Microcomputers

For internal use only:

Meeting No: 196

SI: yes/no

TECHNOLOGICAL PROSPECTS FOR LIBRARIES IN DEVELOPING COUNTRIES

ABSTRACT

Optimistically, rapid changes in computing technology over the past decade are providing librarians with an opportunity to participate in the development of new kinds of computers specifically designed for their patrons, staff, administration, and environment. These new workstations are based largely on routines that librarians have followed for the past 30 years in using automation as well as inventive new solutions to the problems of access and control.

In spite of these developments, older computers, driven to extinction by the pace of computing change, will play a large role in many libraries. These machines may provide a short-term solution to information management and administrative tasks, but ultimately might prove to be financial and tactical risks. The use of fossil technology as new technology in some libraries will require imagination, foresight, and a strict adherence to international standards in data control. The boundaries of invention with technology are set ultimately by end users, and not by manufacturers. It is clearly the role of librarians to explore these limits in order to stimulate the creation of new technology that will satisfy the needs for information of their patrons under any conditions well into the next century.

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TECHNOLOGICAL PROSPECTS FOR LIBRARIES IN DEVELOPING COUNTRIES

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What sorts of computing technology are most appropriate to libraries in developing countries? Optimistically, new technologies for any library should take advantage of advances in hardware and software to invent new machines specifically designed to solve old problems, to answer specific needs, and not to create new administrative headaches along the way. In other words, how would you define a library workstation for your library? What would it look like? How much would it weigh? What would power it? How would it work? What would it really be used for? The rate of technologic evolution is accelerating at an incredible pace, and there is a window where we can create a computer that would really work in our own backyard. You have the opportunity to sketch the blueprint for this machine, to outline the features of its software. How are you going to respond? Let's first look at workstations in general to spark our collective imaginations.

Computers in one form or another have been a common feature in and around libraries for the past thirty years. The earlies computers in libraries in the 1960s took up floor space rather than desktop space, and competed heavily for manpower and mor Called the NCR 315, the Honeywell 400, or the IBM 1401 - wit :s

16 kilobytes of memory and US$280,000 price tag - these machines were all high on the shopping list of any librarian interested in automation. A decade later in the seventies, the minicomputer was providing libraries with a chance to own their own hardware. Out of this rush for ownership of computing resources came predictions for the total demise of paper records and card catalogs. In the eighties, librarians embraced personal computers as a means to accelerate library routines in the absence of programmers, systems analysts and other experts, with expanding links to mainframe files. Now, molded by technological advances, the prospect of a library workstation looms before us, born by the ways in which librarians have used computers over three decades.

Definition

Before we proceed any further, we need to come up with a workable definition of workstations. To say the least, there is a great deal of confusion over the meaning of a workstation. Some call a dumb terminal hooked to a remote mainframe a workstation. Others call a personal computer with an accelerator board a workstation. Some librarians indeed may be justified in calling their workstations workstations.
No one yet has called a Cray a workstation.

We need a workable definition for our library workstation that won't fit a box that will collect dust as a doorstop, but that actually makes patrons and staff fight over its use.

Many experts will agree that a workstation should have a lot of memory - 4 or more Mb, lots of storage capacity - 80 or 100 Mb -, large, high-resolution monitors, specialized software and a sophisticated operating system, and some high speed means for communicating with other computers.

Most importantly for our staff and our patrons, we should add to this list of characteristics a quick response time. The response time should not be humanly noticeable, on the order of less than 100 milliseconds. Several current workstations respond in less than 50 milliseconds, quicker than the flicker of an eye. For our impatient patrons and staff, response time may be another hardware statistic to induce boredom but experiments have demonstrated that heightened response time means greater productivity and satisfaction with a given machine.

History

With this definition in hand, let's look briefly at the history of workstations. Fifteen years ago on the eve of the appearance of the first workstation, computers were defined by their bits - microcomputers were 8 bit machines, minis 16 bit, and mainframes by default 32 bit. Now it seems all computers are 32 bit - and not their speed. The low end of mainframes sported a speed of 0.26 million instructions per second (MIPS), typically had a 1 Mb of main storage, 120 or 240 Mb of disk storage, and cost over $1,000,000 when properly equipped. When a small company called Apollo introduced its first workstation, it put the power of a DEC minicomputer on the desktop for a fraction of the cost.

A heated battle began with workstations competing with minis. As the power of workstations grew and their cost dropped, their advocates would claim that they competed successfully with mainframes in speed and were actually easier to use. Paralleling this development, personal computers were becoming more sophisticated, leading to our state of confusion over the definition of a low end workstation and a high end personal computer.

How were workstation manufacturers able to accomplish these feats? Over the course of a decade, the average cost of a workstation dropped remarkably. In 1981, the average price of a workstation was $42,000; last year, it was $13,850. For the last eight years, there has been a three fold increase in the performance of workstations per year. This accelerated evolution has been nurtured by remarkable product life cycles, introducing new technology to the market at a quicker pace. In the mainframe industry we were treated to a product cycle of ten years. Minicomputer manufacturers cut this cycle down to five years with smaller and lower priced machines. Workstation and personal computer vendors have reduced this cycle even more, with Sun cutting the cycle to 18 months, Apple working with twelve month or less cycles, and Apollo reducing the cycle in one instance to 6 months.

Types

Formal workstations in spite of this rich history remain specialized devices, designed for specific audiences demanding

access to enormous desktop computational strength or as a vehicle to manipulate complex graphics.

There are workstations for engineers and scientists but high-powered workstations for librarians are appearing just on the horizon. There is a bottleneck in workstation development, caused in part by a lack of software that takes full advantage of the advances in computer hardware.. Little software exists right now that would be of use to a librarian for a sophisticated workstation. A cure for this problem may come from a not totally unexpected source, and that is the huge population of personal computers existing worldwide. Personal computers are popular thanks to their enormous collection of applications for databases, book-keeping, and document production. As personal computers grow in similarity to workstations, more and more computers in both camps will be built around the same processors; processors are the basic engines that drive computers. Software developers have already started to develop software that is less machine-specific but instead constructed to work across a variety of hardware platforms transparently.

Trends

This of course is one of several trends that will unfold quickly over the next few years in the course of workstation evolution. The increasing performance of microprocessors will play a large part in the development of future workstations.

As has been noticed elsewhere, processors have been evolving very quickly, outperforming in their brief history minicomputers and mainframes. From 1982 through 1988, the speed of processors rose by a factor of 6, minicomputer performance rose by a factor of only 4, and mainframe performance climbed only by a factor of 2.5. Indeed the future of workstations will depend on using new microprocessors, and in using them in massive combination with other processors. One such futuristic device was created by Intel with 128 of its 80386 chips; it has produced speeds of 512 million instructions per second (MIPS), greater than any mainframe. These multiprocessor computers or "multis" will become the dominant machines in the near future, even in libraries. The real problem will be developing software to take advantage of these computer's processing strength and speed.

This analysis of workstations leaves us asking where libraries will be in their quest for a computer to fit their ever increasing needs. Will this whole race for desktop Crays leave libraries stuck with hand-me-down fossils that offer little relief to the growing mass of printed scholarship?
Optimistically we should answer, no. Library automation efforts have been moving at a rapid pace along several fronts, utilizing personal computers as de facto workstations. These computers are streamlining library operations, and opening access to library collections and remote databases. Work with mainframes in libraries has focused on creating more sophisticated interfaces to a variety of bibliographic files, and permitting users a easier

way to take advantage of library services. Let's briefly look at some of the work done with microcomputers, as a way of seeing how these accomplishments integrate into the development of a library workstation.

Processing Workstations

Most of the earliest uses of personal computers in libraries were to simplify internal routines. Brought in at first to handle word processing chores, these computers were soon put to work to create databases that kept track of video collections, slides, and recordings. Encouraged by the success of these minor database feats, librarians began to expand their desktop databases to keep track of orders for books and journals, circulation statistics, personnel data, and lists for out-of-print items. In the final extreme cases of this database frenzy, some librarians have abandoned the use of mainframes for the storage for all but archival information, making the mainframe tape drive the ultimate personal computer backup device. Databases based solely on personal computers have exploded in complexity in libraries, carrying thousands of records related to acquisitions, serials control, and cataloging. Some of these databases grew out of programs commercially available in any software store; others were originally born in off-the-shelf software but were modified by librarians with external programs to accelerate the databases through some of the unique and complex problems in bibliographic control. In some of the most recent cases, whole families of library software - software to completely operate a library from

circulation to cataloging to database searching and back again - are now evolving out of complex database engines. This enthusiastic manipulation of databases by librarians for ultimately mundane bibliographic chores clearly demonstrates that the library workstations will be tested first as database drivers before anything else.

Public Interfaces

Librarians have been searching for years for easier ways to access bibliographic information. Personal computers brought a new vehicle into the hands of many, in combination with a modem. Early uses of both local and remote bibliographic files via personal computers heightened dissatisfaction with the state of interfaces. In spite of the often primitive nature of telecommunications software, there were efforts to soften the interface with tools within the telecommunications software. There were also additional efforts to rethink the entire way in which information was presented on a CRT, but those programming problems were left to in the province of mainframe systems analysts and programmers.

Hypermedia programs changed the rules for interface design for librarians. HyperCard, for example, provides an independent vehicle for librarians to explore the interface between their clients and bibliographic information. The earliest HyperCard experiments in libraries were spatial and geographic exercises. These stacks provided you with a tour of a library as if you were literally walking your way through it, stuffed with information on

the location and use of materials as well as the more essential (where is the bathroom on this floor?). The success of these early stacks with patrons was due to their simplicity, and their ability to answer basic questions quickly and and without fault or a disapproving glance. To library administrators, who must have wondered over the value of any time spent on this new programming language of HyperTalk, these stacks were a brilliant if accidental public relations tool, generating enthusiasm in the staff for automation. The stacks also provided an excellent solution to the real problem of finding someone to answer all of those dumb reference questions on bathroom locations day in and day out. Encouraged by their success, librarians rethought the functions of libraries from the standpoint of their patrons, and invented new stacks to treat special problems for students in rhetoric classes, in scientific literature workshops, and as guides to special materials. HyperCard stacks were no longer road maps. They became problem specific, organizing library collections around themes or approaches. The current phase of HyperCard evolution is one of the most exciting in that librarians are now creating new interfaces to massive bibliographic files stored remotely on mainframes or on compact discs. Several libraries now are developing sophisticated interfaces to mainframe bibliographic applications. HyperCard shells permit access to bibliographic databases stored on IBM mainframes and allow users to create applications without programming. In some cases patrons can scan, retrieve, and print from electronic vertical files. These efforts clearly indicate that librarians have developed an expertise in

creating new interfaces with new software based on the computational strength of new computers. Clearly, more powerful library workstations of the near future will provide us with this ability to manipulate interfaces easily for the needs of both clients and staff.

Desktop Publishing

Personal computers have been wildly successful in libraries as a means to distribute information through desktop publishing to clients as quickly and as inexpensively as possible. The earliest efforts were for fliers and brochures announcing lectures, programs, and films. Soon afterwards, monthly catalogs of recent acquisitions and special collections appeared hot off laser printers. Currently, libraries use desktop publishing tools to publish periodic bibliographic reports and bibliographies on demand for scholars and students. Future workstations will give staff and patrons the option of printed data in a variety of formats or electronic folders, complete with information rich in text, sound, and image.

Networking

Workstations in their final analysis will be a prime vehicle for pulling together different databases, a tool to sew together different computer architectures, to invent a common interface across platforms. This role as a vehicle not only to mainframes but across mainframes is new. In the past, workstations have been thought of as computational Ferraris, providing to one

individual the power to speed through a given assignment at great velocity. This new way of imagining workstations is to visualize a vehicle to leap across mainframe architectures, a desktop intermediary to a whole complex mass of databases. Their computational strength will create a single interface to mainframes and eliminate the need to invent software apparent to the end user for each computer border crossing.

But are we justified in inventing new computers, these workstations, for our libraries? Is it realistic? In reality, are we justified in imagining new computers designed specifically for the needs of libraries in developing countries? A pessimist would claim that the long history of hand me down technology will continue well into the future, with libraries and other institutions acting as the receptacles for fossil computers no longer wanted or needed in the developed, industrial, and corporate world. There are many examples of this sort of computer dumping. At the headquarters of Hughes Aircraft in California, for example, 1,000 aging Macintosh and IBM computers were unloaded to a computer retailer in exchange for credit towards the purchase of new CPUs. The retailer, in turn, sent these relics to another company which refurbished them for the overseas market. Some of these ex-Hughes computers may wind up in libraries.

Why are these computers fossils, yet how can they still be functional and marketable? In paleontology, a fossil represents the remains of past life on Earth. By analogy, a fossil computer represents the hardware and software remains of an extinct - that is, no longer manufactured - computing device. Some of the

computers that we may find in developing countries are truly fossils, others may be considered a fossil in comparison to new, advanced, and expensive Western technology. With the staggering pace of change in computers - memory chips quadrupling in capacity every three and a half years, decreasing in cost by an average of twenty percent per year, microprocessors increasing in speed by fifty percent per year, magnetic storage devices quadrupling their capacity every four years - it is no wonder that there are warehouses full of useful but obsolete computers, desktop fossils, awaiting rebirth elsewhere.

In part, these fossils are also being created by the prospects of future personal computers. By 1995, notebook laptop computers will feature eight to sixteen megabytes of RAM, contain a high resolution display device, use an eighty megabyte hard disk and a two-inch floppy drive, and weigh around five pounds operating from a battery that will last eight hours. The cost for this sort of machine will be US$2,000 to US$3,000, the price tag for a device thirty times as powerful as a fossilized IBM XT.

In spite of these new computers, current desktop computers are incredibly reliable even with their impending doom as future dinosaurs. By 1995, most personal computers and workstations in use today will still remain quite lively and useful fossils. Part of their functional longevity is due to improvements in the manufacture of key components that have had a history of failing, those same components that have consigned a machine to the junk heap. Maintenance records for the past decade indicate that hard disks, floppy drives, keyboards, power supply units, and

motherboards are the most likely components for failure over time. Five years ago, hard disks could operate for 10,000 hours before failure. Now hard disk manufacturers claim a life span of 150,000 hours before failure for their products. Components are being designed not only for the usual wear and tear of normal operation, but for the abuse incurred by travel, as CPUs shrink in size and become more likely to move with their owners rather than occupy space on a desktop. Only a 24 to 36 months ago, portable computers could tolerate up to 2 gs acceleration when operating and 40 gs when they were not in use. Now they can stand much greater forces. How does this translate into real life? manufacturers such as Zenith Data Systems in the U.S. routinely hear from customers who have the unfortunate habit of leaving their computer on top of a cab that they were rushing into, forgetting the machine on the roof in the heat of taxi pursuit. As the vehicle careens down the pavement, rounding a corner at a screeching velocity, the Zenith in this totally unsupervised experiment flies off at some distance, impacting Earth as it loses its orbital characteristics. Frequently the case may crack, but the system software and hard disk still operate. This increasing reliability means that we will have to deal with the fate of machines that have a great deal of utility left within their plastic shells. The functionality of this hardware will indeed not be determined by its repair rate or downtime, but instead by its ability to work with new versions of software, changes in system interfaces, and the demands of productivity.

What will be the deciding factor for the continued use of these computing fossils? Economics. Librarians are faced with a great deal of competition in an increasing information-hungry and commercial world. Libraries are competing - whether they know it or not - with those that repackage information in different formats. Selling online information, for instance, is now a US$8 billion industry, growing at the average rate of twenty percent per year. The largest commercial vendor of information, Mead Data Central, reported last month for example a thirty percent increase in revenue for 1989 to US$401 million. Libraries are faced with using computers that are both economic and cost-effective, to stay productive and to keep pace with the explosion of printed literature.

Local area networks (LAN) provide one viable alternative to effectively use older personal computers, to beat the phenomenal maintenance costs of expensive mainframes and minicomputers. In fact, the costs of larger computers are fueling the migration to personal computers, workstations, and networks. But local area networks are not completely free of their own problems. In a survey of a thousand network managers, LANs were down for about 6% of the time in the course of a year, with an average crash lasting nearly 5 hours. These collapses of local area networks cost the U.S. business community almost $3.5 million in employee productivity per year. Mainframes are being recycled in the corporate world as centralized file servers and data libraries, to rescue users from the curses of downtime of local area networks.

Even with a huge collection of fossil computers hooked into series of networks, economics will determine the ability of many librarians to cope with these twin demands for computing expertise and functionality. The financial arithmetic of using readily available, cheap computing fossils is bleak. Due to a lack of funds, many librarians will have no choice but to maintain a museum of operating fossils because monies have to be devoted to the rising costs for personnel and collections development. Some institutions may have no alternative but to purchase extinct computers for use because the prices of new CPUs may be still beyond the limits of strained budgets. For administrators, this short term solution might hold promise for a bright future, given the trends in price and performance for all sorts of computers. A manager for example might study the prices of this year's crop of workstations and note that for US$500 to US$2,000 a computer can be found that will perform at a rate of a million instructions per second. Super-minicomputers, that operate at 5 times that speed, cost anywhere from US$90,000 and up. Hence the use of a fossil computer may appear to be an appropriate administrative choice, while awaiting the arrival of an affordable desktop Cray. But this sort of waiting game for briefcased supercomputers is dangerous to the administrator and the organization both financially and logistically. By using fossil technology a library runs the risk of compromising the integrity of its crown jewels, its bibliographic databases. There may be very real and potentially insolvable problems in migrating data from incredibly dated software, where the original manufacturer is long extinct,

where manuals are incomplete, where institutional memory is faulty over the exact meaning of portions of code.

In addition, the maintenance costs for fossil computers are great. Maintenance contracts rise as CPUs become increasingly older. Alternatively, the cost of upgrading an archaic machine to the state of a contemporary computer may be as much as purchasing a replacement. Adding boards and accelerators to speed the processing capacity of a given personal computer may merely delay the inevitable, the outright purchase of a new CPU.

The troubles of maintenance costs and finding homes for fossil computers are just one part of the entire picture. Software is often updated two or three times a year. These revisions take advantage of new features such as enlarged RAM on new motherboards and co-processors, which are not part of fossil computers. In addition, new versions of applications may also require abundant hard disk space, as software grows in size, as well as input devices, function keys, and monitors not found on older models. Some older models are incapable of operating graphic interfaces, which put a heavy demand on memory, defeating their ability to work on networks with more modern CPUs running more complicated features.

What is the fate of these fossils that don't find a resting place in a library? The used computer business is a huge and growing industry in the U.S. alone. It has grown from sales of US$4.8 billion in 1987 to US$7.8 billion in 1989. A survey of individual consumers in 75 U.S. cities indicated that some US$1.2 billion worth of used computers exchanged hands in 1989;

corporations alone sold US$322 million worth in that year. Often these machines are being sold in exchange for new models. Nevertheless, most librarians are not in the position of Hughes Aircraft to dump their dinosaurs on other countries. Instead, they are obliged to use these computers until they truly decompose or die of old age. What will become of the information stored on these obsolete machines, using increasingly idiosyncratic databases? As a profession, we will have to face the challenges of prospective conversion - the migration of records from extinct computers to more modern models - with intelligence, creativity, and a great deal of planning.

There are several broad paths open to moving data from one computer to another regardless of age. Telecommunications allows information to be uploaded to temporary storage on bulletin boards, larger computers, or anywhere with sufficient storage space and accessibility via a modem. Alternatively, computers can literally be hardwired together, taking advantage of standard ports and buses. Finally a software intermediary can act as a translator to move information errorlessly between machines. In any case, with a little imagination, these procedures provide an alternative to rekeying thousands of lines of data and reinventing a data file from scratch.

Librarians will continually face the problem of technologic extinction in the face of computing advances and limited financial resources. We need to accept the costs of technology, in terms of sheer maintenance. By anticipating the problems of data transfer, through the use of software that follows internationally agreed

upon standards and uses filters to deal with data peculiarities, we can avoid some of the headaches brought on by the use of computers over the long term. In the end, the most important consideration in the entire process of utilizing technology is not the sheer existence of archaic computers in libraries or the advent of sleek new library workstations. We need to be aware of the potential threat of technology through misuse and misapplication to the integrity of information, the core of any library. If we can no longer trust our databases, if we can no longer have confidence that our hardware and software are storing, retrieving, and deleting data as expected, then we, and not the machines, are targets for extinction, by failing to perform our most basic responsibility as information professionals.

In the end, the kinds of technology that we will use in our libraries will be based on our input into the designs of new computers, and our habits in manipulating extinct machines. We have the opportunity to use technology in ways unimaginable ten or twenty years ago. The only boundaries are our own, defined by our imagination, creativity, and finally determination.

New Technology in the Third World

Presented by Edward Valauskas
Merriam Center Library
Chicago Illinois USA
For the Division on Regional Activities
August 1990

Overview of Workstations

- Definition
- History
- Types
- Trends

New Technology in the Third World

Library Mainframe Automation

- catalogs
- database searching
- library processes
- extended services
- networking

Uses of Micros

- processing workstations
- public interfaces
- desktop publishing
- networking

New Technology in the Third World

Desktop Publishing

- information distribution
- library publicity programs
- reports & bibliographies
- multimedia

Networking

- workstations as windows to the world
- workstations as intermediaries
- workstations as endusers

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New Technology in the Third World

Average Price of Workstations

year	$US
1981	$42,000
1989	$13,850

Performance Factors, 1982-88

growth of processing speeds	1982-1988
microcomputers	6
minicomputers	4
mainframes	2.5

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New Technology in the Third World

Processing Workstations

- database management
- automated processing
- file maintenance
- software development

Public Interfaces

- hypermedia
- simple spatially-based desgins
- specialized applications
- database frontends

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New Technology in the Third World

Fossil Technologies

- why
- issues
  - economics
  - maintenance
- LANs
- future

Issues

- compatibility of search software & protocols
- transportability of data from one system to another
- accessibility
- transparency
- role of libraries in developing the interface
- role of libraries in training & counseling users
- costs
- resources

IFLA GENERAL CONFERENCE STOCKHOLM 1990

Division of Regional Activities

Section of ASIA

132-ASIA-2-E

COMMUNITY INFORMATION AND REFERRAL SERVICES IN RURAL AREAS OF SOUTHEAST ASIA : A CONCEPTUAL FRAMEWORK

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For internal use only:
Meeting No: 107
SI: yes/no

COMMUNITY INFORMATION AND REFERRAL SERVICES IN RURAL AREAS OF SOUTHEAST ASIA : A CONCEPTUAL FRAMEWORK

By
KATNI KAMSONO KIBAT

ABSTRACT

There is a growing recognition that library and information services must become part and parcel of socio-economic development programs. Since the majority of people in Southeast Asian countries still live in rural areas and are engaged in agricultural activities, attempts were made to reach them through rural library services. However, existing services are deemed too book oriented and hence Information and referral services (I & R) have been suggested as an extension of existing library programs, particularly those services providing information on agriculture. A CAINS (Community Agricultural Information Networking System) model is proposed. The paper concludes that I & R service can help reduce the information gap between the urban and rural areas.

1. INTRODUCTION

There is a growing recognition that library developments, particularly development of public libraries must become an integral part of national socio-economic development dedicated towards improving the general quality of life. Library and information services originally limited to business, corporate organisations and major government agencies will have to be expanded to cover all sectors at the grassroots level. However as the economic logic dictates, only countries with sufficient financial resources are able to provide efficient nationwide library services while those with economic constraints have placed library development at the bottom of the list of government priorities. Nevertheless, realizing the growing complexities of present-day society and the increasing demands for information, a new dimension has been added to existing library services. Other than increasing use of technology in information handling, the existing reference, lending and readers services have been extended to include the supplying of information and direct help needed by individuals and communities. This is variously called community information services, information and referral services or community information and referral services.

Provision of community information services in Southeast Asia is a relatively new endeavour, for almost all countries in this region are heterogeneous, with unique social stratifications and racial compositions. The media (radiao, televesion and newspapers) operate in at least four

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languages (not inclusive of other local dialects). The language barrier therefore is not only an international problem but a problem within a nation too. The Southeast Asian people speak more than 1000 dialects!.

Despite a steady increase in literacy rate, the problem of the information-privileged and under-previleged is still apparent, especially between urban and rural populations. East and West Malaysia are separated by 2000 kilometers of South China Sea, while the Indonesian archipelago covers 2,000,000 square kilometers dotted by more than 13,000 islands. Further, the geographical distribution of 7,100 islands comprising the Philippines which stretch 300,000 square kilometers can pose daunting problems to the information services planners.

Whilst some Southeast Asian countries have the highest per capita incomes in Asia, others are hampered by political fragility and trade deficits. Nevertheless, this region is rich in both terrestrial and nautical resources, with the potential of becoming a highly developed area in the world. The highest priority in terms of financial allocation is towards the eradication of iliteracy, poverty and ignorance. Such attempts require the creation of literate and informed societies.

The provision of library services has been quite innovative over the past twenty years. it ranges from the "bare foot librarian" concept publicised at the Conference of Southeast Asian librarians in Manila (1973) to the Koran Masuk Desa (village newspaper) in Indonesia (Assegaf, 1982), postal loan services in the interior of Malaysia (Kadir, 1987), the information supermarket in Singapore (Olive Lee, 1982) and the tin box library in Thailand (Gesmankit, 1987).

The Singapore conference on The New Information Professionals (1986) took a serious view on the apparent decline of librarians' image, (Usherwood, 1986). If the present image is to be retained or elevated librarians must change their role to justify their importance and the public libraries existence. This is probably a key factor influencing sthe development of community information service - a concept of bringing information to the users. Since this is a relatively new

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development, this paper does not propose to evaluate its achievement. The conceptual framework upon which this paper is based shows the potential capability of community information and referral service (I & R) in addressing the following areas:-

a. To reduce the gap between the information rich in the urban areas and the information poor in the geographically isolated regions.

b. To fulfill individual needs for information used in solving daily problems especially among the low socio-economic groups living in the rural areas.

c. To play a more positive role in fostering national unity in a multiracial society by minimising language, cultural or ethnic barriers.

2. THE RURAL INFORMATION ENVIRONMENT

The rural society as noted by Nafziger (1984) is highly differentiated. It comprises a complex structure consisting of peasants, small scale farmers, share croppers, shifting cultivators, fishermen, plantation workers and artisans. In most developing countries the bulk of the population still live in poverty with high birth and death rates but low literacy levels. Information dissemination that relies on normally-expensive printed matter will reach a small fraction of the population simply because of low income, illiteracy and language barriers. Most rural families as noted by Quebral (1987) "have less of everything except offspring. A good number of their children die before the age of six because of mulnutrition and poor health care". They just lack the economic power to break loose and hence normally do not go out seeking information.

The bulk of the rural population relies heavily on agrobased activities, a need which is often overlooked by the existing information system. One major obstacle inhibiting the provision of efficient information services in the rural areas is related to the poor communication infrastructure and widely dispersed rural population. The geographical characteristics of these areas hamper communication between the

urban and rural areas. Some localities can only be reached by river transport through thick jungles, valleys and terrains, where travelling during bad weather can be an additional burden. Under such conditions the rural populations tend to be left out of the major information main stream. They simply have little idea where to go for information. Late arrivals of printed matters to the rural localities, render them out of date and of little value.

However with the development of better communication systems over the years, the rural and urban linkages have improved tremendously. The urban influences such as in Malaysia, have rapidly changed the rural lifestyle, so that information flow can easily take place. What needs to be improved is not only the communication system but the information system, because the rural population still holds a different impression about what library and information services can actually offer.

The Five Year Development Plans in almost all Asean Countries place heavy emphasis on improving the rural conditions. So far, such plans have produced positively significant social impact, especially improvement of literacy and standards of living. The information systems in Indonesia for instance produce programs like village broadcasts, village newspapers. "Listening groups" in villages have been formed as part of the strategy towards direct involvement in government programs outlined by the government guidelines of State policy. While Malaysia has achieve a commendable standard in rural library services through legislative support, Thailand is seen to be rapidly strengthening its information resources through channels like village newspaper reading centers and the Department of Community Development. Philippines has comprehensive bookmobiles programs (Conrado, 1987) covering the entire nation through its provincial and barangay library networks. Singapore with its city state character forges ahead with its automation while the new Asean State, Brunei is unlikely to face much problems in the provision of library services because of its small size and strong financial backing. The progress of rural library services in Southeast Asia can be gleaned through the country reports during the Seventh Congress of Southeast Asian Librarians (CONSAL) Manila, 1987.

Indonesia : In her account Prokoso (1987) took note of the 3,529 subdistricts and 66,391 villages to be served by rural library programs administered by the Center for Library Development established in 1967. The rural library programs which constitute part of the Five Year Development Plan fall under the government policy in setting up village libraries, mobile units and reaching the interior by boats. So far 1,690 libraries have been established and based on the number of villages, the systems still falls short of 54,754 libraries and the requirement of 109,508 trained staff. Despite its effectiveness. It has become part of the village social activities aimed at broadening the community outlook and improving the village ways of life while encouraging awareness in the use of modern technology for better living. The entire operation calls for the direct involvement of other units such as Village Community Resilience Unit, Village Administration Units, Young Social Works Unit and Family Welfare Promotion Unit.

Malaysia : The basic objective of rural development in Malaysia is to uplift the socio-economic conditions of the rural population and reduce economic imbalance between rural and urban areas. To achieve this mission, regional development projects have been set up covering all rural areas.

The provision of library services in the rural areas as noted by Wijasuria (1987) is not represented as a major program effort in the Fifth Malaysia Plan 1986 - 1990. Neither do the State Public Library Corporations have a written policy on the subject. However the draft National Policy for library and information services proposed that library and information services be provided in every district and mukim (sub-district) within the country "in such manner that those desirous of using such services will have convenient access to them".

Currently, library services are provided by Federal, State and Local government authorities. The federal authority provides services through its ministries (Ministry of National and Rural Development, Ministry of Land and Regional Development and Ministry of Education). The state authorities have established their own public library corporations,

with branches, mobile units and mini libraries in selected villages. These are at least 57 mobile units serving 826 library stops. While recognising its constraints, Wijasuria further noted that "far too often library services are provided on the basis of the perceived rather than the real needs". The Malaysian rural population however has the advantage of full participation and commitment from the elected political leaders. Members of State Library Corporations Boards are often state assemblymen who ensure adequate legal and financial support for the rural library services.

Philippines : The provincial, city, municipal and Barrio library services of the Philippines are under the supervision of the National Library. Despite attempt to provide services to all 12 regions through 498 branches, these services are still characterised by short supply of books (0.01 book per person). "There is much to be done" noted Munasque (1987) because the existing services reach merely seven percent of the population. The bookmobileunits introduced after World War II continue to operate while others have ceased functioning. The Quezon Province, an area with the longest shoreline, while having 27 municipal libraries has been served with the Bookmobile service since 1978. Conrado (1987) notes:

> "The bookmobile makes four trips a week, but not necessarily a round trip. It leaves the capital city and proceeds to the first town ... it stays there four to six hours ... if the distance is far the staff stays overnight to save gas, time and effort. The driver sleeps inside the bookmobile while two other staff members share a room for the night in the house of a teacher".

The bookmobile service has succeeded in reaching a segment of the rural population which would not otherwise have any library facilities at all. In presenting its case Dr. Serafin Quiason the Director of the National Library reminded the authority "It is the rural areas where the common man is the beginning and the end of overall development. If we want to achieve any mission for the common man in the rural areas, we must constantly strengthen the capabilities of the existing structure" (Conrado, 1987). The bookmobile and its counterparts in the Philippines have succeeded in bring improvements to rural areas.

They have stimulated reading interest. They have increased general awareness through the distribution of informational literature on health, nutrition, child care, family planning, etc. Their staff have shown good examples as a dedicated group of public servants. They help to supplement the existing services in school beside having to play a bigger role in continuing education of the rural adult Filipinos.

Thailand : Located at the "heart" of Southeast Asia, this nation of 50 million people is about the size of France. More than 80% of the people still live in rural areas engaged mainly in agricultural activities. In enriching the rural lives the Thai government does not only bring knowledge into the interior but skills as well. It has introduced agricultural schools through its expanded educational network. As a result the Thai adult literacy rates reached a high of 85.5% in 1980. In its effort to provide library services to the rural population, the Thailand National Library which is under the Department of Fine Arts of the Ministry of Education, has its branches throughout the provinces. The provincial schools whose concentration emphasises on services to children, provide "children library boxes" services to clusters of schools on rotation basis. In 1986 the library box was aimed to reach 4,039 clusters.

Another noble effort is the provision of Tin-box library, a project undertaken to provide books contained in tin-boxes and placed at strategic spots during school lunch breaks. The project covers 158 schools located in 5 districts at Pitsanulok Province. The Door to door library project is aimed at rural households. It is intended to supply each household with a bookcase containing not only books but sports equipment as well. The bookcase is placed on loan for a period of three to six months before it is collected to be passed to the next household. The other interesting method of bringin knowledges to the rural readers is the launching of Book Donation. Book boxes are placed in front of government buildings, department stores and shopping centers before the books are selected and shipped to the rural areas. The Búddhist concept of Tod Phapa Nangsu which means the donation of yellow robes together with books to Buddhist Monks has gained popularity in 2,700 monastries throughout the country. Other projects include the "barefoot teacher" among village reading

centers. One notable characteristic of library provision in the rural areas of Thailand in the involvement not only of educational institutions but religious institutions and other government offices, including the Border Patrol Police!

On a more positive note Mrs. Kullasap Gesmanskit (1987) the former Director of the National Library of Thailand conclude;

> "Taking the problem indepth, the solution to it is not as difficult as it would seem to be if the rural areas are to be provided with the library services which would be within reach by all ... It is believed that good library services would bring along an improved living of the rural people in so far as their ability, to absorb knowledge ... it is hoped, the government's claim to cover 38 provinces and 12,500 villlage which from the poverty zone will shed some lights of wisdom".

3. FRAMEWORK FOR RURAL COMMUNITY INFORMATION AND REFERAL SERVICES (I & R)

As indicated by the above country reports, books and reading materials have actually reached a relatively high segment of the rural population. What has not been fully achieved is the cultivation of reding interests, because studies have shown a woefully low rate of public interest towards reading. Under such circumstances, the other alternative is to develop comprehensive I & R services.

Wijasuria's observation that the present library services (in Malaysia) are "too book oriented" calls for a redefinition of library objectives and programs. This has been substantiated by a recent study conducted by Library Science students at MARA Institute of Technology, which revealed that more than 40,000 inquiries were received over the last five years by Hotline, Actionline and Infoline, the three major information services provided by newspapers in the country.

I & R is "a process of linking an individual with an information or service need to a resource designed to meet that need" (American Library Association, 1985). It originated in Europe as far back as 1870's and became popular after World War II. The popular information agency in the United Kingdom is the Citizen's Advice Bureau (CAB). The services come under a variety of names and comprises activities ranging

from information giving, follow up, referral, escort and outreaching. Other agencies undertake to provide counselling services, case-finding, community education and conducting community development research.

The service can be general in nature or can be a specialised one. The Mount Auburn Hospital in Cambrige established a specialised information service center called CHIN (Community Health Information Networking) and began operating in 1974. Its main function is the creation of an efficient interlibrary loan system to allow public libraries to have access to existing health sciences library resources. An interesting features of CHIN as noted by Gartenfeld (1978) is the involvement of health professionals in every phase of the development where at least one-third of the community advisory council members are health service providers.

An other aspect of information and referral is the specialised community being served. The "From Here to There" program was introduced especially to serve the needs of steelworkers community in South Chicago. Garvey (1971) noted that the information center can be part of the overall union program.

The advantage of information and referral as noted by Long (1978) is that the service does not require a completely new structure. As in Singapore it is provided fully by the existing public library systems without incurring high operaitonal costs. It is more flexible and as visualised by Lee (1983) it can positively contribute towards community developments. The rural areas as suggested by Kempson can be reached by village contacts,mobile services, telephone services and radio.

It is possible to develop an I & R model especially suted to the needs of the rural communities in Southeast Asia, particularly in the field of agriculture. Hence, model called CAINS (Community Agricultural Information Networking System) is proposed.

4. CAINS : A MODEL FOR AGRICULTURAL INFORMATION SYSTEM

The objective of CAINS is to link the user who needs information on agriculture to a source of information on advice which can fill that need. (Guidelines published by American Library Association, 1985, rev. ed).

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The CAINS conceptual model for information services can be interpreted as follows. First the USERS have been identified as small scale farmers including household members in particular locality at district level. In order to be fully operational, CAINS must be given the basic facilities of a branch library equipped with basic reference tools and telephone lines. Second, the INFORMATION required by the farmers engaged in various agricultural activities is divided into categories:

a. Agricultural Activities based on small scale farming

This relates to all activities related to plantation and care of coops such as cocoa, oil palm, coconuts, corn, rice, rubber, tobacco, vegetables and fruits as well as to rearing and care of livestock.

b. Agricultural technology applicable to small-scale farming areas include budgrafting, use of fertilizers, machinery and other equipment, irrigation and water supply, harvesting methods, pest and weed control, care of seeds and seedlings, soil conservation and protection and weather control.

c. Marketing and its outlets

A wide range of information should be made available with regard to regular and potential buyers (names, addresses and telephones, agricultural marketing authorities, market prices, farmers associations and pasar tani (farmers market).

d. General Information, particularly about education and scholarships, courses on farming, family planning, health and nutrition, infant care, loans and financial aids, motor and other vehicle repairs, religion, sports and taxes.

The third aspect of the IRS framework is the mechanics of information transfer (Kibat 1986) which focuses on several major activities, as follows:-

a. Resource files maintenance : This comprises cross-indexed files of all services and programs available in the area being served, which is developed after conducting a comprehensive community study.

b. Information giving : This provides information about services and programs. It also includes an analysis on the users profile or the inquirers background. It is used on : the Singapore model (Liew, 1983) to provide factual information in answer to straight forward inquiries.

c. Referral : While this service guides a person towards the source of information, it is also thought of as an activity that will include "directing" or "steering" the inquirer to the appropriate agencies capable of handling his problems. It can include fixing of appointments with the respective agencies.

d. Follow through : This is a process whereby contacts are made to determine whether the inquirer has reached the agency, whether the freferral was appropriate and whether the inquirer received the service requested.

e. Escort : Escort services can be provided voluntarily by making available transportation facilities to the agencies being referred, to help the inquirer to fill in forms if necessary or answer questions at the agency on behalf on the enquirer.

f. Outreach : This is an activity geared to reach the potential enquirer by going out into the community to encourage and stimulate the use of the existing program.

g. Advocacy : This involves speaking, writing and acting on behalf of the enquirer so that he will get the services or benefits to which he is entitled.

The last part of the model, INFORMATION RESOURCES provides a full and comprehensive listing of all the relevant agencies, their functions, locations, officers in charge, addresses, branches and publications (if any) available. These agencies will have direct linkage with CAINS and can be referred to at any particular time.

The establishment of CAINS does not require the restructing of the existing library system but rather an expansion of the existing program. it may require additional fulltime staff with experience in reference services.

The other aspect of the service is the actual role of the I & R staff, involved in CAINS who should not give advice to farmers on farming technology and pretend to be agricultural scientists. Their main role is to refer the inquiries to the relevant sources or to escort them to the appropriate agencies. They shoud neither duplicate the role of district agricultural officers nor interfere with activities conducted by information officers.

Public library services in Southeast Asia have expanded, with their services, having been extended to the rural areas. However, bearing

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in mind the experiences in some Western countries indicating declines in library cirulation and considering that of high proportion of the rural population in Southeast Asia is dependent upon small-scale farming, it is proposed that information on agriculture be diseminated through the proposed CAINS, which is adapted from the CHIN model, successfully implemented in England. The proposed I & R service has the potential to reduce the information gap between the urban and rural areas in Southeast Asian countries.

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GENERAL CONFERENCE STOCKHOLM 1990

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IMPACT OF INFORMATION TECHNOLOGY ON LIBRARIES IN INDIA

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IR053484

For internal use only:

Meeting No: 107

yes/no

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Dr.Janak Raj*

Information Age

"We live in an age of information, a time when destinies of people and nations are dependent as never before on a factor as elusive in concept as it is intangible in substance ...Information is the basis of economic growth, and the essential characteristic and driving force of a range of technologies of breathtaking potential."[1] If we have a look on history of civilization, we find that: "After the agricultural age (with power and wealth based on land and cultivation), and the industrial age (based on capital and manufacturing), comes the 'information age' with power and wealth based on the control and communication of knowledge."[2] Technological progress was initially associated with power engineering, which followed the invention of powered machines, and with the boom in production technology associated with the rapid spread of manufacturing machinery. Today information processing machines and the information technologies are increasingly assuming this pre-eminent position. The present information age is thus 'post-industrial age'.

Information Society

In the information age there is less emphasis on manufacturing industries and more on service and knowledge industries. There is a recognition of information as a key resource for economic growth. The organisations are becoming aware of the need to manage information in a similar planned way as they manage their other key resources.

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The society of information age is referred to as 'Information Society.' The concepts of 'post-industrial' and 'information society' are now common place in scientific, sociological and economic thinking in the developed countries which refer to a society that is gradually emerging. The information society implies an information intensive society.

Bhattacharya[3] of DRTC spelt out salient features of information society which are very pertinent.

A very significant change in present-day factories has been the introduction of programmable manufacturing systems. Gunter Spur projecting management in the industrial society of the future writes: "Knowledge-based work systems will have a much greater impact when experts from other disciplines can enter them and use the systems without any special training. Through a process of accumulation and refinement, it will then be possible to build up complex, high-quality knowledge bases containing the entire know-how of whole professions and branches of technology."[4] He further states that "Current forecasts indicate that by the year 2000, service and infrastructure-related tasks will account for nearly 75% of all jobs."[5] The strucfural transformation now taking place will result in a demand for higher level of qualifications. Only those who really understand technology will be able to make effective use of it. "In the industrial society of the future, human creativity will be the driving and guiding force behind all new developments."[6]

"As generally understood, the information society is an advanced, postindustrial society of a type found most commonly in the West. It is characterised by a high degree of computerisation and large volumes

of electronic data transmission, and by an economic profile heavily influenced by the market and employment possibilities of information technology," said Martin.[7] As about the germination of such a society Naishatt is confident that in the United States the transformation from industrial to information society began in 1960's.[8] It would be unwise to generalise from this particular case. Not only this transformation started at different points of time in various countries, but also every country is in a different stage of such transformation. In fact, it should be assessed in a 'real-world' context. Dordick has rightly suggested that rather than viewing the process in absolute terms, we should envisage societies as featuring in a continuum leading by stages towards the information society.[9] Progress along this continuum then is to be measured in terms of some variables, such as, "level of information consciousness, the environment for information processing, the development of information sectors or economies, and the emergence of information related goals and values."[10] For a detailed study of these variables studies of Nora-Minc,[11] Masuda[12], and Grewlich[13] can be referred.

In fact, the real emergence of information society has taken place only in the advanced industrial nations, especially the United States, Europe and Japan where the quality of life, prospects for social change and economic development depend increasingly on information and its exploitation.

> In such a society, living standards, patterns of work and leisure, the education system and the market place are all influenced markedly by advances in information and knowledge. This is evidenced by an increasing array of information-intensive products and services, communicated through a wide range of media, many of them electronic in nature.[14]

The above account does not mean that the entire world has entered the information age. Position in the 'developing countries' is much different. Among the developing countries there are very poor and least developed nations, such as, chad, Niger, Afghanistan, Bangladesh, Haiti and the Central African Republic which have yet to achieve an 'agricultural revolution' let alone of 'industrialisation.' There are some which are "fast industrialising nations such as Maxico and Brazil."[15] Besides, there are "newly industrialised countries (NIC's), where, in places such as Hong Kong, Singapore, Taiwan, and South Korea, there has been spectacular economic growth, often involving exploitation of the latest technologies."[16] India, among the developing countries, has also undergone a considerable degree of industrialisation. In fact, majority of developing countries are in the stage of 'industrialisation,' let alone ' informatisation.' However, many of them are yet miles to go; a few fast approaching the border; and a few touched the border and are at the verge of entering or entered the border of information age, but are yet to qualify to be termed as information society. India is one of them.

3. Information Technology(IT)

The traditional libraries stored, processed and distributed physical artefacts, usually in the form of prints-on-paper including other media. With the shift of account from physical artefacts to information or their content, by applying technology, the information-carrying artefacts are converted into digital data for purposes of storage on optical disc, processed using computers, and transmitted through data communication networks. In other words, the focus on library holdings and bibliographical records is being replaced by the focus on information content and electronic

access. Information technology is essentially the product of advances in the three key areas of computing, telecommunications and microelectronics. A group of technologies is involved to achieve the desired end and it consists of:

1) Computer technology
2) Telecommunication technology
3) Graphic technology
4) Storage technology
5) Audio-visual technology.[17]

In fact, a happy marriage between all these technologies has made the storage, processing, retrieval, transmission of massive information and document delivery very fast. Department of Trade and Industry of U.K. has defined the IT as:

> Information Technology is the acquisition, processing, storage, dissemination and use of vocal, pictorial, textual and numerical information by microelectronics-based combination of computing and telecommunications.[18]

There is no element of knowledge work in the manufacturing or service organisation which is not succeptible to the use of IT. The speed of technological advancement in the area of IT is very fast. As a result, "IT, broadly conceived, has been dropping in cost and improving in functionality at a remarkable rate, some 20 to 30% per year. The rate is likely to continue over the next ten years."[19]

The world is entering an era of networked computing. No single organisation will control the information infrastructure. Whether one is a user or a supplier, one has to develop a platform from which to host and attract that computing power outside the organisation.

Reporting on the U.S. experience of spending on IT, the Bureau of Economic Analysis, a U.S. Government agency, reports that "in 1987, U.S. business invested 33% of total capital spending on

information technology in 1988 dollars (42% in 1982 dollars). This amounted to $ 101 billion spent on office computing, communications, office instruments, and photocopy equipment."[20] Now there is hardly any area in the developed countries which has remained untouched from the impact of IT including life style, the way work is done in offices, factories, transport, education, health care and what not.

Impact of IT on Library Service

Information Technology is a crucial consideration for libraries. The raw material of library work is information or knowledge. Definitions of IT tend to apply micro-electronic-based technologies to the activities - acquisition, processing, storage and dissemination of information- which form the essence of library service.

In the early 1960's, Harol Leavit, then at the Carnegie Institute of Technology established that "there are four forces in a state of dynamic equilibrium in a healthy organisation: people , technology, structure and tasks."[21] Research shows that if a change takes place in one of these forces, adjustments have to be made in other forces to keep the organisation in balance. On the same analogy with the adoption of technology to library and information activities, the forces like people - both who run and use libraries, structure of both library buildings, organisational structure of sections and staff, and tasks like library routines, procedures, systems will need changes or suitable reorientation. Since the technology is changing very fast, so the changes in the other three forces have equally to be quite fast but systematic to keep pace with advancements effected in technology.

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It would imply changes in:

- the training of the existing library staff;
- curriculum of library and information education;
- user education;
- specifying spaces for work stations in various sections in the library buildings;
- reorganisation of various functions and staff structure;
- infrastructure for networking; and
- adoption of systems - approach.

Information technology can have a major impact on four areas which, taken together, make up library service:

- raw material (collection)*
- operational processes (routine transactions)
- Management processes (planning and control)
- Customer interaction.[22] (users)

5. Position in India

The first computer system in India was the HEC-II, introduced by the Indian Statistical Institute in the year 1956 and by 1984 there were 1300 computers. The first experiment on the use of computer for library was carried out by INSDOC in 1964 on the IBM 1670 computer available at IIT, Kanpur.[23] Kamath and Malwad conducted a survey of use of Computers to library and information activities in India in 1971 and reported that "There is only one library having computerised procedures for procurement, one for charging and discharging; two for cataloguing; four for preparing additions' lists and one for preparing union catalogue for periodicals. Among the documentation activities, indexing seems to be more common though the criteria for indexing are different... The libraries generally make use of the spare capacity of available computer facilities which are suitable for the type of work on off-line use."[24]

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* Within brackets, my own.

Keeka[25] conducted a survey of computer applications in India for her dissertation in 1981. P.S.G. Kumar[26] and R.L. Sehgal[27] also conducted surveys in 1987, which covered 37 and 40 institutions respectively and gave operationwise analysis. Sehgal gave analysis of computer systems and programming languages also in these institutions.

In 1980's improved technology and availability of PC's at much cheaper rates and the facility of satellite communication have brought a revolution in the scene of application of technology to library and information activities in India. Above all is the gradual realization of 'information' as a key resource like other resources, say men, money and material primarily in the industrial and then in the government and academic circles.

Reprographic and micrographic technologies had come to the Indian libraries and information centres quite some time ago and need not be discussed at all. The happy marriage of computer and communication technologies, the application of which is a recent phenomenon in the Indian libraries, have resulted in the following types of activities:

- Automation of house-keeping functions;
- Creation of databases;
- Searching of internal databases on local computer;
- On-line access to international databases;
- Obtaining of databases on CD-ROM;
- Electronic mail;
- Networking.

"Today computerised information retrieval systems are being experimented upon in about 300 institutions in the country."[28]

51 Training of Working Librarians

Immediate implication of adoption of IT in Indian libraries was

the training of the manpower already in position. With the financial support from NISSAT, professional associations, such as, ILA, IASLIC, AGLIS and institutions, such as, DRTC, INSDOC, NIC, Academy of Information Science, Mysore, Universities of Pune and Delhi had been conducting short term, adhoc and long term courses for the computer awareness and application of computers to library activities for working librarians. Adhoc courses have been conducted by a number of institutions at various places in the country. Under the training programme of NISSAT from 1986 to 1989, 66 short-term, adhoc and long-term courses have been conducted for the use of CDS/ISIS package alone wherein 1256 personnel were imparted training.[29]

Training institutions of library and information science, such as, DRTC, INSDOC, and university of Delhi have included IT in their curriculum and also provide hand on experience. Elsewhere in the country, it forms past of the curriculum in some of the teaching departments but facilities for hand on experience will come up in due course of time.

52 Database Creation

Seven centres established by NISSAT are creating computerised databases on different specified subjects as given below:

1) Ahmedabad Textile Research Association (ATIRA), Ahmedabad: NICTAS for Textiles and allied subjects.
2) Central Drug Research Institute, Lucknow. NICDAP for Drugs and Pharmaceuticals.
3) Central Food Technological Research Institute, Mysore: NICFOS for Food Technology.
4) Central Leather Technology, Madras: NICLT for Leather Technology.
5) Central Machine Tool Institute, Bangalore: NICMAP for machine Tools.
6) Department of Crystallography & Biophysics, Madras University, Madras: NICRYS for Crystallography.
7) National Chemical Laboratory, Poona: NICHEM for Chemistry and Chemical Technology.

Other institutions engaged independently are as under:

1) INSDOC: National Union Catalogue of Scientific Serials.
2) INSDOC: Indian Science Abstracts.
3) Publications and Information Directorate- Medicinal and Aromatic Plants Abstracts.
4) National Institute of Science, Technology and Development Studies (NISTADS): Current Literature of Science of Science.
5) National Institute of Oceanography, Goa: Oceanline.(Now stopped).
6) SNDT: Woman's University, Bombay: SUCHAK.
7) Chemtech Foundation, Bombay: CHEMINFO; a data bank for chemical industry.

3 Searching Readymade Procured databases on Local Computer

1) INSDOC: launched on SDI service in 1978 from IIT, Madras obtaining magnetic tapes of international databases, such as, CA and INSPEC.
2) Steel Authority of India Limited started obtaining METADEX since 1980 and Materials Business File since 1986 for searching.
3) National Centre for Science Information set up in 1983 by the UGC at the Indian Institute of Science, Bangalore obtains CA, INSPEC, BIOSIS, GEOREF and MATHFILE to provide SDI service to users of universities and colleges affiliated to them.
4) AGRIS and INIS international databases can be searched at the Indian Council of Agricultural Research, New Delhi and Bhaba Automic Research Centre, Trombay respectively.

4 Online Access to International Databases

There are many R & D Centre libraries in the industrial sector which have entered into contract to search databases on-line abroad. DESIDOC and American Centre, New Delhi also have on-line search facilities.

NISSAT is having a plan to establish 5 centres under NACID Access Programme. They are at Central Leather Research Institute (CLRI), Madras, National Aeronautical Laboratory (NAL), Bangalore, National Chemical Laboratory (NCL), Poona, Indian Association for the Cultivation of Science (IASC), Calcutta and INSDOC, New Delhi. The Centre at INSDOC is already in operation. Initially these centres would access DIALOG. NACID would use normal PSTN lines with ISD facility to go through INDONET of CMC, Hyderabad and International gateway set up by Videsh Sanchar Nigam Limited, Bombay, thereby availing Packet Switching facility. The Centres would have telex lines with message communication terminals (MCT) as standby.[30]

55 Databases on CD-ROM

A few databases on CD-ROM being subscribed to by some institutions at the moment in India are:

1) MEDLARS, Cancer CD, COMPUINFO and POPLINE by NIC-ICMR Centre, New Delhi.

2) AQUATIC SCIENCES AND FISHRIES ABSTRACTS by the National Institute of Oceanography.

3) Science Citation Index (SCI) by INSDOC.

To guide users on hardware and databases on CD-ROM, NISSAT has established an information centre at National Aeronautical Laboratory, Bangalore.

56 Networks

The intention here is not to catalogue all the networks, functioning or proposed in India, but to have a glimpse of a few important ones only which are:

561 NICNET: To improve productivity, Government of India established National Informatics Centre (NIC) at New Delhi in 1975. The NIC has developed a satellite-based Government Informatics Network (NICNET) which was commissioned in 1977 to monitor the progress of various government projects and assist in decision making. "Presently more than 200 technical personnel are serving over 40 ministries and departments of Government of India and their associated organisations through a computer network of more than 20 minicomputer-based remote stations and more than 100 interactive terminals covering on to a host system Cyber 170/730 with Array Processors. They are spread over a radius of 25 km in Delhi."[31] The NICNET is now in the process of expansion to cover 22 state capitals and 400 districts.

562 CSIRNET: Council of Scientific and Industrial Research (CSIR) initiated to have CSIR INFNET in 1975, it did not materialise somehow. The network proposes to connect all its 42 laboratories/ institutions.

563 ICARNET: Indian Council of Agricultural Research proposes to have its network of ICAR libraries.

Other proposed ones are RAILNET, BANKNET, DESINET (for defence libraries), ICMRNET (for medical libraries) etc.

564 VIKRAM: The Department of Telecommunications is developing a pocket switched public data network. "It is now learnt that VIKRAM may not come by 1989-90: no new data is available either."[32]

565 INDONET: It is the first commercial network being developed by the Computer Maintenance Corporation Limited (CMC), Hyderabad - a public sector undertaking of Government of India. INDONET could be utilised by any body ready to pay for its services. This network is setting up 5 computer nodes at Bombay, Delhi, Calcutta and Madras which will be accessable from all parts of India.

566 BSN: Business Subscribed Network is proposed for providing integrated and reliable facilities to business and industrial users.

567 INFLIBNET: The University Grants Commission (UGC) has a proposal to establish Information Library Network (INFLIBNET) during the 8th Five Year Plan (1990-95). The report[33] of the Inter Agency Working Group formed by UGC is a very comprehensive document. Institutions of higher learning, R & D institutions and National organisations like CSIR, ICAR, FRDO, ICMR, ICSSR, ICHR, AICTE, DAE, DOE, INDIRA GANDHI NATIONAL CENTRE FOR ARTS, etc. will participate in the network. It is a cooperative network. It will comprise of one national centre, four regional centres, about 40 sectoral centres, 400 ground terminals

at 150 University libraries, 50 PG Centres/ autonomous colleges and advanced centres, and 200 R & D institutional libraries and information centres.

Initially INFLIBNET would be confined to scientific and technical libraries of Calcutta which will form a network, CALIBNET with 42 libraries of various institutions and of 2 University libraries, Calcutta and Jadavpur participating. Similarly, libraries of Delhi will form a network, DELNET.

68 ERNET[34]: Education and Research Network will be set up by the Department of Electronics as part of UNDP funded project for linking computing resources available at the five IIT's (Delhi, Kanpur, Kharagpur, Madras and Bombay) Indian Institute of Science, Bangalore and National Institute of Software Technology, Bombay.

69 BTISNET[35]: Biotechnology Information System Network is a specialised S & T Information Network. BTIS is established to serve as a networking and database management organisation in 7 identified areas involving 10 specialised centres in biotechnology. Eighteen user centres at R & D institutes, manufacturing centres and 5 universities would have communication access. The BTIS programme will take advantage of the large network of computers established for NICNET system.

7 ENVIS[36]: Erstwhile Department of Environment (now integrated with Forests and Wild life) of the Government of India set up Environmental Information System (ENVIS) in 1982. The focal point of the ENVIS network is located at the Department in New Delhi and 10 ENVIS Centres in Different areas of environment are located throughout the country at selected institutes/organisations.

6 UNESCO*

For bringing about information consciousness and extending help in building infrastructure for organisation and dissemination of information in the developing countries, the role of Unesco can not be underestimated.

World science information system (conceived in 1966 by the Science Sector of Unesco) came into being in 1974 as UNISIST programme. This experience of Unesco was soon extended to other fields of knowledge and brought into existence ARKISYST (Architecture), POPINS(Population), DEVSIS(Development Sciences). Department of Documentation, Libraries and Archives (DLA) of Unesco convened the second intergovernmental conference in 1974 from which emerged National Information System (NATIS). Consequently in India came into being the NISSAT (National Information System for Science and Technology).

The work done by NISSAT is well documented and need no elaboration about its training programmes, free distribution of the CDS/ISIS package to libraries, organising of sectoral information in India etc.

7 Conclusion

At this point of time the Indian society does not fully qualify to be an 'information society', but from the above account it is evident that a beginning has been made and the time is not far off when it will also become an 'information intensive' society.

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* For detailed study one may look into Librarian's handbook by L.J. Taylor. London, Library Association, 1980,Vol.2,pp.1-19.

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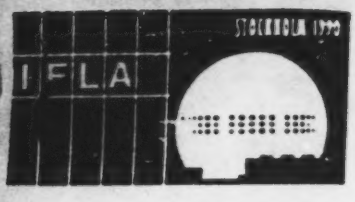

Division of Regional Activities

Section ASIA

135-ASIA-5-E

THE THIRD WAVE AND THE THIRD WORLD LIBRARIES

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IR 053484

For internal use only:

Meeting No: 107

MI: yes/no

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Keywords:
Information technology
Libraries
Third world countries
India

Libraries in developing countries are well established institutions and intertwined in their culture. With the coming of information technology, rich sources of these libraries are being harnessed for effective information transfer. A rich country like US also created National Commission of Libraries and Information Science in 1979 and recognised that the "total library and information resources in the United States is a national resource, which should be developed, strengthened, organised and made available to the maximum degree possible in the public interest."[1]

The story, on the other hand, in the Third World countries is different. There is usually, "low competence of the user groups to value and use information for individual and collective development."[2] Illiteracy and poverty go together and they reign supreme in many of them. Most of these countries were under colonial rule, naturally priority of these people was political emancipation. After independence, "The newly emerging nations have to deal with legitimacy crisis of the nation state,"[3] and in the process of industrialisation and development, they are grinding under debt. "A number of countries in Africa and Asia and Latin America have already established a national structure for documentation and library service,"[4] recently. But they could hardly afford to plough in sufficient funds for development of their information infrastructure. Consequently, their research and academic libraries are pale prototype of their counterparts in the affluent countries. While "most American students receive their first library use instruction in elementary (primary) school,"[5] the grass root libraries - school and public libraries, particularly in rural and suburban areas-

are conspicuous by their non-existence. This paper will survey the situation in India, a vast country rather a subcontinent, the largest democracy and having the human power next to China in the world.

India is a federal country comprised of 25 states and 7 union territories. Every state is further divided into districts, blocks, cities, towns and villages. In some states, there are intermediate units, such as divisions, tehsils, talukas, pettas.

According to the Constitution of India, libraries come under state subject, except those of national character or of national importance. The latter come under Union Government. Education is under Concurrent List. In other words, academic libraries come under both state as well as union government, and as in US, the Constitution of India precludes public libraries from the jurisdiction of the Central Government.

There are national level libraries: the National Library of India (not the apex body of library system as in UK and other countries), National Science Library, National Medical Library and Indian Council of Agricultural Research Library.

Most of the states have established state central and district libraries. There are city, town,tehsil, branch, block and village libraries or village book centres in some of the areas.[6] Only eight states have so far enacted public libraries acts, providing public library system in their states. In other words, more than two third states do not have "public library system established by laws and maintained at public expenses." Delhi Public Library, the first pilot public library set up with Unesco assistance, is providing library services to the Union Territory of Delhi.

As on 1988, there were 179 university or deemed universities, over 5500 colleges with 2,25,000 faculty staff and 40,00,000 students of which 40,000 were research scholars and over 3,50,000 were postgraduate students.[7]

After independence, there has been growth of special institutes and industries. There are 2,000 to 2500 special libraries.[8] Personnel employed in R & D institutions in the country including in house R & D units of public and private industries was 2,41,000 in 1986, of which 35 per cent were actual R & D performers [9]

The logic of the situation in a developing country makes development of anything dependent on government initiative and funds. The Union Government has been providing funds under Five Year Plans for development of libraries. It also appointed committees from time to time for libraries. But the emphasis is on science and technology. The Planning Commission appointed Working Group on Modernization of Library Services and Informatics for the Seventh Five Year Plan (1985-90). It spelt out an integrated plan for modernising the libraries. National Policy on Library and Information System has been formulated by a committe appointed by the Government of India. The policy aims to make available information expediously and pinpointedly at all levels for accelerating the pace of development. An Empowered Committee to examine financial and other implications for implementing decisions in this connection was also formed by the Government, which submitted its report in 1988

INFORMATION INFRASTRUCTURE FOR SCIENCE AND TECHNOLOGY

Since indepedence, the government has given importance to the development of science and technology in the country. As early as 1958, it adopted the science policy resolution, and in

1983, the technology policy statement was passed for establishment of technology information base.

Under UNISIST programme, 1971, member states were called upon to establish national focal points.[10] One of its objectives was to assist developing countries in the development of scientific and technoligical information infrastructure. India sought advice of Dr. Lazer through good offices of Unesco, who recommended a model based on the report of the Central Committee of Unesco World Science Information System. Unesco, subsequently promoted the NATIS concept to ensure information to all engaged in political, economic, scientific and educational activities.[11] Meanwhile the National Committee for Science and Technology was working on a comprehensive socio-economic plan for the country. It adopted National Information System for Science and Technology (NISSAT) after discussion. Thus, NISSAT was established in 1977 and became a part of integral plan of the Science and Technology of the country.[12] Its objective is to interlink and coordinate a large number of information sources, systems and services into an effective information network under an over all coordinating agency after identification of information users and also to develop information sources and services. The functions of the system are similar to those suggested in the UNISIST proposals.[13]

It is a multi-tier structure. National information centres: Indian National Scientific Documentation Centre (Insdoc), Defence Scientific Information and Documentation Centre (DESIDOC), Small Enterprises National Documentation Centre (SENDOC), National Medical Library, National Agricultural Documentation Centre and Library, etc. were made focal points for coordinating, organising and providing

information at national level in their areas. Eight sectoral information centres have been set up so far, under the programme, with the purpose to create databases, where indepth global data is lacking or where local information is of more importance. These are:Leather Technology at Central Leather Research Institute, Madras; Food Technology at Cetral Food Technological Research Institute, Bangalore; Drugs and Pharmaceutical at Central Drugs Research Institute, Lucknow; Machine Tools at Central Machine Tools Institute, Bangalore; Textiles and Allied subjects at Ahmedabad Textile Industry & Research Association, Ahmedabad; Chemicals at National Chemical Laboratory, Pune; Bibliometrics at Indian National Scientific Documentation Centre, New Delhi; and Compact-disk at National Aeronautical Laboratory, Bangalore.[14] There is also National Information Centre on Advanced Ceramics established in Central Glass and Ceramics Research Institute, Calcutta. These centres are built around the existing information resources and facilities. They have created and are maintaining several databases to cater to different information requirments of their clientele. They have got sophisticated equipment, a wide range of documents, manpower for providing information services on a national scale, such as document supply, prepartion of bibliographies, search of information

Besides databases created under NISSAT,some of the institutions are creating their databases in their respective fields. For example, Publications and Information Directorate, Council of Scientifc and Industrial Research, has created database on Medicinal and Plants, and publishes its abstracts. Current Literature of Science of Science (CLOSS) is the baby of the National Institute of Science, Technology and Development

Studies. National Institute of Oceanography generates a bibliographic database OCEANLINE. Some of the organizations and new government departments are establishing computerised information systems. There is Environment Informatin System (ENVIS), Biotechnology Information System , National Management Information System for Science and Technology, etc.

India is participating in development of international databases. For example, Bhabha Atomic Research Centre is collaborating with INIS and sends inputs in nuclear science and allied subjects. Indian Council of Agricultural Research Library and Information Centre sends national input for AGRIS . The Central Food Technological and Research Institute, Mysore scans Indian journals and sends information about them to the International Food Information Service, U.K. National Social Science Documentation Centre has been designated as a Regional Centre of Asia-Pacific Information Network in Social Sciences (APINESS).

Some of the institutions in India, like DESIDOC. BHEL, INSDOC are conducting online searches of commercial databases through telex and telephone lines. NISSAT has taken up the work of setting up online search facilities on a regular basis in the country at five regional centres: Indian National Scientific Documentation Centre, New Delhi; National Chemical Laboratory, Pune; National Aeronautical Laboratory, Bangalore; Central Leather Research Institute, Madras; and Indian Association for Cultivation of Science, Calcutta. The centre at Insdoc, New Delhi is already operating.

A few centres are subscribing to databases on magnetic tapes and providing SDI services to their users. Recently databases on CD-ROM are becoming popular and are being acquired

by some of the centres. For example, INSDOC is subscribing to Science Citation Index; National Institute of Oceanography to Acquatic Sciences and Fisheries Abstracts, Indian Council of Medical Research to MEDLARS, Cancer CD, COMPUIOFO and POPLINE.

NISSAT is also engaged in promtoing the software packages for libraries and also training the manpower in association with other institutes.

ACADEMIC LIBRARIES

While NISSAT has been promoting and integrating information and library services in science and technology, no system or network exists for academic libraries, though some of the university libraries have computerised their house keeping jobs.

The UGC National Centre for Science Information (NCSI) at Indian Institute of Science, Bangalore offers computerised SDI services from foreign databases. Shreemati Nathibai Damodar Thackersey (SNDT) Women's University Library and Information Centre, Bombay has developed SUCHAK database, which covers 400 Indian and foreign journals in English, Hindi, Marathi and Gujarati, theses, conference papers, books etc. Madras University is operating search services from the Cambridge Crystallographic Databank in batch mode function.

There is a proposal: Information and Library Network (INFLIBNET), and the University Grants Commission, India, is instrumental for it. The Commission appointed an Inter-Agency Working Group, which submitted its report in 1988.[15] Six Task Groups were appointed in June 1989, as recommended in the report, on various aspects, to work out the finer technical details. They submitted their draft reports. There was International Consultation Meeting on Information and Library

Network on March 1-3, 1990.[16] The project is to be taken up in Eighth Five Year Plan (1990-95).

The objective of the Network is to optimally share the resources of the university libraries and institutions of higher learning covering all disciplines, R & D institutions and national organisations like Council of Scientific and Industrial Research, Indian Council of Agricultural Research, Indian Council of Medical Research, Indian Council of Social Science Research , Indira Gandhi National Centre for Arts, etc.

It will be a multiple fuction/service. It will offer catalogue based service, document delivery service, collection development and communication based services, such as electronic mail, etc. There will be a national centre for managing, overseeing and coordinating the afairs of the network, and regional centres, which will maintain union catalogue of holdings of libraries in the regions and database of projects, institutions and specialists.

At the Sectoral level, UGC Information Centres, NISSAT Sectoral Information Centres, and other centres which perform national level functions and services in specific subjects/disciplines/missions will be included. Users will be served locally through university/ college/department or information centre (R&D).

PUBLIC LIBRARIES

"The public library system though weak in many states, has vast scope and potential and needs development." [17]

In 1972, the Government of India, established Raja Rammohun Roy Foundation, as an autonomous organization, sponsored and fully financed by the Ministry of Education and Culture to support the programme of public library development. Though it is doling

out aid, yet there is no coordination of different units of all types of libraries for national availability of publications and free flow of information. And public libraries figure no where in the present or proposed plans of library and information networks- even the big ones like NISSAT or INFLIBNET. It is unfortunate that the Third Wave technology will not be harnessed for providing information to common man.

TELECOMMUNICATIONS AND NETWORKS

Telecommunication is the nerve system for networking. There are a few networks operating in the country, such as, Central Electricity Authority Network, ONGC Network, NTPC Network, BHEL Network, Air India and Indian Airlines Network, Indian Railways Network, Coalnet and Sailnet.

National Telecom Mission has been conceived to improve all telecom availability, reliability and services, provide basic satisfactory telecom (voice and non-voice) services, to integrate overall telecom development to build necessary infrastructure for a single national telematics network. It is expected that the system would be evolved to offer voice, data and video services through a mix of satellite links, microwave links, and fibre optic cables, etc.

Several long-range initiatives have been taken by various organizations. National Informatics Centre, Planning Commission, Government of India, "so far, has been large computer system installed in 1980."[18] It is developing a network-NICNET to provide computing and communication infrastructure to aid planning and monitoring of schemes and decision making activities in the Government. It will facilitate flow of information among four national/regional nodes, 32 state/ union territory nodes and 439 district nodes. The system is

connected presently with 60 interactive terminals and 12 minicomputer terminals, and it has regional facilities with three metropolitans- Bombay, Madras and Calcutta. About 1,000 users are availing of the services, 75 per cent of these users belong to Central Government offices.[19]

Indonet is the first commercial computer network . CMC Ltd, Hyderabad is piloting it. It has node points in big cities and by 1990, this number is expected to grow to 100. It faciltitates intracity communication. The Bombay node of INDONET has been connected to International Gateway of Videsh Samachar Nigam Ltd., thereby it facilitates entry to public data networks of other countries.

Vikram public data network is being developed. Though experiments have been carried, it has yet to make beginning. Therefore, NICNET and INDONET have helped in putting data bases online.

"The launching of Calcutta Library Network (CALBINET) programme and Biotechnology Information Network (BISNET), 1989, marks the beginning of a new era in library and information centre management."[20] Nissat has taken an initiative to nucleate consultative mechanisms for eight more cities- Bombay, Madras, New Delhi, Hyderabad, Bangalore, Luncknow, Pune and Ahmedabad. The lead in each city would be taken by Nissat related institution. Besides, Council of Scientific and Information Research is planning to set up a computer communication network (CSIRNET) for exchange of information among its about 40 laboratories. Similarly, Department of Defence is planning to have DESINET. ERNET aims to reach hundreds of academic/research institutions of scientific and engineering disciplines, while

VIDYANET proposes to link up laboratories and institutions of excellence and their scientists/research workers.

Thus India is already using information technology, but the progress is far from satisfactory by parameters even in some of the developing countries. During the last decade attempts for computer applications have been going on mostly in R & D organizations and in some university libraries. Introduction of microcomputers and enthusiasm of library personnel have largely contributed to initiate this activity. National information centres in the country are in the forefront, in this respect, as it should be. Network planning of library and information infrastructure of the country is being done in a big way, but mostly it is in idea plane. Interestingly, it is the crying need of academic and research community .It is they, who are conceiving, evolving and planning it. They are taking keen interest in its development and putting pressure But it is not without problems.

PROBLEMS

The basic problem, as it is in most of the Third World countries, is electricity. Electricity is the base on which the whole edifice is built. And shortage of it everywhere is the rule than the exception.

Telecommunication is the biggest "challenge in India as it has to link good information and to link people all over the country."[21] The country has domestic satellite INSAT. "The Seventh Plan led Indian Telecommunications up the garden path with the DOT proposal to provide dedicated packet Switched Data Communication Network (SDN)."[22] C-DOT was designated as the nodal agency for indigenous development of PSDN. It was expected that it will give a giant leap into modernity. But it has reached

"Nowhere says a senior DOT officer."[23]. Thus the status "of the telecommunication system is enough to dampn the spirit of network development in the country"[24]. The two data networks in the country- Indonet and Nicnet- are for commercial and government purposes, respectively The fate of networks like INFLIBNET, CALBINET, DESINET hangs on the Vikram network, which is yet to come.

Finance is the driving force for bringing the new technology. And there are many claimants on it. New technology requires a lot of initial investment and quite an amount for maintaining it to reap its benefits. And in a Third World country, every thing depends on government. Though the government has taken initiative for modernising library and information infrastructure and networking, but all these are long term plans. Will the Government provide the amounts asked for , for the purpose, continuously [illegible]? It is a begging question.

Another problem is bibliographical control of several libraries, which does not exist even on conventional lines. There are bright spots for computer based bibliographincal control in some libraries particularly in R & D organisations on individual basis. But there has been no standardised cooperative effort such as OCLC, RLIN in USA. So, the pathetic siutation of bibliographical management in the country is yet another big challenge. [25]

Besides. there are usual problems of adopting to new technology, networking, designing, bibliographical database services, hardware, software, manpower training, etc.

There is no doubt that Information Technology will help in harnessing the benefits of shared resources, hence better

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utilisation of collection by scholars and researchers. It will also improve accesibility and availability of documents, among geographically dispersed locations and abroad. It is most welcome, particularly, in view of the inelastic budgets of libraries, soaring high prices of materialS and avalnche in production of documents.

FUNDAMENTAL CHALLENGE

But the new infrastructure is "for the educated and the creative members of the society"[26] who will have quick access to whatever is happening in their own country and the world around, and it is not oriented to common man. Proponents usually argue that people in a developing country are used to oral culture and are mostly illiterate. And public libraries have no meaning for those who are not literate. Study by Baliar Singh and Mahapatra, though not conclusive, on literacy and library consciousness, confirms that only 3.7% of illiterates were aware of public library as against 37.37% of literates.[27] In other words, the print media on which the library is mostly based in the developing countries, is not a universal media. Communication research suggests, "If a medium use spreads only to some community members and stopped there, the community would risk disintegrating into two groups, medium users and others."[28] This is exactly happening in developing countries, and also explains apathy of majority to library. And it is the minority of elites, who are also ruling, want to provide them library facilities, of their choice. Besides, there are higher costs and lower benefits, when the media has less than universal access.

Nonetheles, rural people need information. Studies by Aina[29-30] in Nigeria, Ramaraj Urs[31] and Sarda[32] in India, and many others indicate that rural people also need information in those

matters that contribute to agricultural productivity, credit, cooperation, marketing, health, etc. Haider[33] is of the view that most increase of agriculture production in Pakistan was due to new knowledge or information. Third Wave technology of mass communication-Radio, TV,,telecommunications, etc. is reaching people,even in remote corners in the developing countries, informing and educating people both literates as well as illiterates; thereby creating awareness and more demand for information. But use of TV and other mass communication media have a long standing axiom, that its "viewing behaviour has been that the decision to watch typically supersedes the decision what to watch."[34] Therefore different agencies, such as for agriculture extension, health care, family welfare are trying to meet the information needs of people separately. "Introduction of the Community Development Programmes as also Panchayati Raj have made rural masses conscious of development,"[35] in India. But there is no agency to provide integrated information service, in most of the villages

Libraries in the First Wave Technology of script were "dependent for their dissemination upon the speed and efficiency of medieval copyist."[36] Printing brought the Second Wave in libraries. Printed media became the pillar of modern library and dissemination of knowledge reached masses. This Wave resulted in the speedy dissemination of knowledge, which in turn has paid rich dividends in the form of stupednous extension of bounds of knowledge and alround development of the society. But this media presents visual images and very often rely on text that must be decoded before it can be understood. So still its use is literacy dependent. Communicating with computers by voice has been developed.[37-38] The Third Wave technologies: audio,

video, TV, computer with voice capacity, telecommunications can break this biggest barrier in the use of libraries, in the Thirld World.

The printed media neither has capacity to produce sound nor movement. The user is left to experience its content in any way, at any place and at any pace. On the other hand, the Third Wave Technology presents images and sounds, and the user can to some extent control its pace and order. Research of Short, Williams and Christie[39] shows that audio plus video media permits user to experience social presence, hence its sociability, warmth, ,personalness and senstivity is next to face to face communication. Daft and colleagues[40-41] have described communication media along a single continuum of "Information richness" and stated that written media has decreased richness as compared to face to face communication; and the rural folk is used to the latter. The dominant perspective on media use proposes that individuals will effectively employ media whose inherent characteristics are congruent with their traditions and culture. Hence the new media is likely to suit oral and traditional culture of the Third World. Unfortunately, it is perceived primarly as entertain media, and is invariably used for watching movies. This is a quirk in its development as education and information media.

The traditional model of public library is mostly print media based in the developed countries, though it has a lot of audio visual media. And the Third World countries are mimicking this model, without analysing the social cues of our environment. We are basing library services on the actual media use behaviour of the information rich, hardly giving a thought that pattern of media use will vary by group based on

differences in social norms. The result is that we cannot reach the non-adopters (illiterates) of the printed media.

It is high time that we breakaway this social norm, and model libraries particularly at grass root based on community requirements. We should employ ,more of new technology. The library should be 'community centre' or 'an integrated civic centre'[43] or 'equivalent of our village square'[44] For that, it is compellingly necessary that we develop media which suits their behaviour . It should be prepared keeping in mind the task of communicaion of information. Information must be prepared for target groups. It should be brought to the level and language of users for easy assimilation. It should have perceptible high relevance.

For this purpose,resource centres should be developed, as have been done in case of adult education,for getting prepared literature. TV centres and other such organisations which are preparing educative and informative materials in this media, can also be tapped. International agencies like Unesco can also help in this direction, by taking up pilot projects, for making available the expertise, and getting information available on use behaviour and attitudes of users.

Libraries have to be equipped with TV, VCR, cassettes etc, instead of books only. There is abject poverty in many of these countries, so most of the people cannot afford to have this equipment. It may be added that simply pouring more and more information will not remedy the malady, because of blocked bottleneck of centuries between users and the information. The users have to be motivated to choose what they want to view, when to view. They can also view common programmes in groups. Updating of information is not costly affair, as it is in case

of books. Computer may provide capabilities of using it interactively in future.

It is worth experimenting with the new technologies which give new capabilities . International agencies like Unesco, WHO, have plans like "Education for all", "Health for all", "Information for All",etc. And the traditional literacy bound document libraries have proved their irrelevance to these potential users of information. The Third Wave Technology brings a ray of hope in meeting the fundamental challenge of providing "Information to all" in the Third World Countries.

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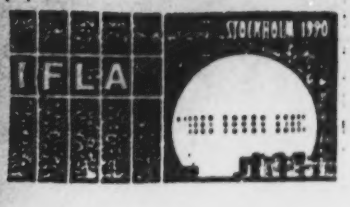

Division: REGIONAL ACTIVITIES

Section/RT: AFRICA

146-AFRICA-2-E

The future of librarianship in Africa

by

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IR053 484

For internal use only:

Meeting No: 136

SI: yes/no

The Future of Librarianship in Africa

The future of librarianship in Africa can be considered under two categories: the service given by the existing libraries (now in their Post-Foreign Exchange phase) to their clientele of elites and would-be elites; and the extension of service to the 99% of Africans who benefit in no way from librarianship. Lessons can be learned from the history of library development (some of the pioneers worked as hard to keep the "wrong" people out of their libraries as to bring the "right" people in). Foreign aid can be a helpful spur, but no more. The solution lies in people and in their will for change.

The 1980s have not been easy years for libraries in most parts of the world. In the United Kingdom many public and academic libraries have been forced to reduce the quality of their services by cutting back on their hours of opening. In the United States even great research libraries such as the University of Illinois at Urbana-Champaign Library now collect less comprehensively than they did in the 1960s and 1970s. In Africa there is "book famine": the abnormality of foreign exchange shortage has become the norm, and many libraries are now in what one might term their Post-Foreign Exchange period. But at least one good thing has developed

out of all this as far as Africa is concerned: an increasing amount of re-evaluation of the purpose of libraries and of the appropriateness or otherwise of the kinds of library service that the current generation of African librarians have inherited.

The irrelevance of librarianship

Librarianship in Twentieth Century Africa is full of contradictions. Two Zambian academic librarians (Maurice C. Lundu and Raphael H. Milimo) honestly admit that most rural communities in their country would regard them as outsiders.[1] A Kenyan (Shiraz Durrani) states that the remoteness of libraries from the lives of Third World people is no mere accident: "the professional librarians are totally dedicated to their profession. There can be no deviations from the theories learnt in far away centres of knowledge."[2] The isolation of librarians from the great majority of their people is hardly surprizing given the bad example set by many of those who inaugurated the libraries in the first place; the advisors from afar who knew what libraries were supposed to be and what standards they should meet; the professional education in the United States, the United Kingdom and elsewhere from people who had little knowledge of or interest in the culture, society, politics and economy of Africa; the professional education at home modelled on foreign curricula; the demand for the services the few existing libraries were offering that was so great that it left their librarians scant time or energy to think about the 99% of their

compatriots who were completely unserved.

How to keep as many people as possible out of libraries

Librarians and librarianship as obstacles to the spread of information are important but neglected subjects. This paper deals with the future of libraries, not with the past, but some influences of the past fifty or sixty years of professional librarianship in Africa have been so pernicious that to bypass them is to look at the present and the future through blinkered eyes. In the early decades of the century South African and Kenyan whites kept blacks out of libraries by insisting on subscription fees because they knew that few if any blacks could afford them. Their so-called public libraries were not public at all. In the pre-independence 1950s people were kept out of libraries by stocking the shelves with Jane Austen and other classics of Western literature rather than with multiple copies of the textbooks that they so desperately wanted to study. Others were excluded by insisting that reference and reading rooms were places for the reading of the professionally selected reference books on the shelves, not for private study. The new literates and the great mass of non-literates were kept out by the professional background of the public librarians: apart from ritual remarks at conferences they expeditiously forgot the enthusiasm of the adult education specialists at the 1953 Unesco seminar at Ibadan for the library as a means of eradicating illiteracy; it was not, after all, what one came up against in the average British public library.

The publisher's blurb for a recent book on the history of the British Council's work states that those who have worked as Council librarians overseas have, "like missionaries, spread the word of their faith in a strong and free public library service as a powerful weapon in the struggle against ignorance, poverty and tyranny."[3] This is nonsense. Some librarians have indeed struggled, but others have put as much effort into keeping people out as into bringing people in. Two experts at this were British Council librarian Kate Ferguson and her boss W. M. Macmillan, the Council's senior representative for British West Africa from 1943 to 1945. Macmillan was the first Council officer in West Africa. He opened an office at Accra, and stated that it was Council policy to work at the highest level. He wanted to serve the top people, the right people, the "select two hundred" composed of African and European doctors, lawyers, administrators and secondary level teachers.[4] He scolded the representative in Lagos, Norman Lloyd Williams, who had started a reading room which was used by clerks. You are spoiling those people, Macmillan told him, you are giving them more than their fair share of our precious books. And not only our books but our chairs, our "over-comfortable chairs" intended for our own club-institute! For "untrained readers--demoralizing almost!"[5]

Kate Ferguson moved from the Gold Coast to Nigeria in 1945. She started the Lagos Public Library, a joint venture between

the British Council and the Lagos Town Council. She insisted on charging a subscription fee because without one they would have "(a) no building big enough to hold all the riff raff that would come in; (b) how could we keep out those who could not read[?]; (c) you could not provide enough books."[6] The colony's public relations officer backed her up, saying that he shuddered to think what free libraries in Nigeria would cost the British taxpayer, and that there was quite enough mental indigestion in Nigeria as it was.[7] Despite strong and well-argued opposition from Jessie Carnell in the Council's London office Ferguson's view triumphed. So much for missionary zeal!

What is to be done about the present state of existing libraries?

Moving to the 1990s, it seems appropriate to consider the future of librarianship under two categories: the service given by the existing libraries to their clientele, and the extension of service to the 99% of Africans who receive nothing at all from librarianship. The first of these categories is, of course, far less difficult to discuss: it is familiar ground on which we may tread with some confidence.

Many existing libraries appear to be in a state of great difficulty: few if any new foreign publications for a number of years, and more perplexingly, few new local publications. Governments make available foreign exchange for the importation of private motor cars, televisions, video

cassette recorders, and stereo sound systems, but not for books and periodicals for libraries. This means that librarians have failed to convince the authorities that books and journals have value. It means that those of us who have taken part in the education of librarians have also failed: our teaching has not prepared our students adequately for changing times and roles.

What about local publications? There can be little excuse for an African library not to acquire them; after all, the Library of Congress, Northwestern, Yale and other great American collections have been doing so for decades from a distance of several thousand miles. It is understandable if disappointing for African scholars to have to apply for foreign support to go overseas to consult foreign publications on Africa; it is inexcusable for Africans to be obliged to go overseas to consult the publications of their own countries that have not been acquired or preserved by their own countries' libraries.

What if there is neither local nor foreign currency for acquisitions? If the library is as unimportant as all that then surely the authorities ought to close it down and redeploy the staff to more worthwhile work? Why continue to employ acquisitions and cataloguing staff when there is no money to acquire and no acquisitions to be catalogued?

K. J. Mchombu's paper on the librarianship of poverty was one

of the most significant contributions to the literature of the 1980s.[8] Higher education institutions were well financed (even though their countries were poor), but now they too are ensnared in both the librarianship and the scholarship of poverty. Those of us who act as referees for manuscripts submitted to European and American journals are increasingly despondent at the paucity of reference to publications of the last ten years. It is as if the clocks have stopped and a time barrier has been erected around Africa.

What about aid from overseas? Aid had given many good buildings that are still servicable after twenty or thirty years, books that are still usable, and educational links that in some instances have opened up wider horizons for students and staff at both the African and the overseas institution. But it is often inappropriate, and it can lead to a culture of dependence. The fine buildings serve as palaces of librarianship in countries where most of the population live in dwellings with thatched or zinc roofs. The "gift from Britain" books provide the people who control the local budget with the excuse for not providing money to buy any books at all.

Foreign aid is full of irony. The United Kingdom is assisting the development of the Faculty of Information Sciences at Moi University, Kenya. It is providing scholarships for Moi lecturers to undertake doctoral degrees in Britain, and a link with the Department of Information Studies and

Technology at Ealing College London which includes visits by Ealing lecturers to Moi to teach. One of the special conditions of the aid package is that is that Moi maintains a student staff ratio of 10:1 as the Faculty expands. But Ealing itself is working towards a student staff ratio of 16:1! Ealing is part of the non-university sector in Britain, the colleges and polytechnics that are favourites of the government because they give good value for money: good quality teaching and plenty of it, unlike the universities with their expensive emphasis on research. Under the 1989 Education Act colleges and polytechnics became independent higher education corporations, competing with each other and with the universities in the market place for students. Each needs to be as cost effective as possible, few could afford the high standards set for Kenya.

What are librarians doing about the 99% of Africans who have not benefitted from traditional librarianship?
The majority of librarians have confined themselves to traditional librarianship, but there have always been some who have gone further. The Quiet Struggle, the new book by Paul Sturges and Richard Neill, surveys the range of initiatives taken over the years. It does point out, however, that the evidence for the increasing emphasis on service to the rural, illiterate population is taken from conference papers, research reports and journal articles. There appear to be few practical results as yet.[9] What we need are honest updates on initiatives that tells us about their successes and

failures and whether they are still in existence or not. One very impressive experimental project from the early 1980s was the attempt by B. O. Aboyade and colleagues at the Ibadan library school to bring service to Badeku (the villagers, unaccustomed to sympathetic attention from outsiders, asked whether government austerity measure were "directed only at the poor or affected the rich and educated as well").[10] It would be well-worth while to hear whether the experiment continued and whether it was replicated elsewhere.

Solutions?

When faced with problems it helps to follow the American example and reconsider them as opportunities. Certainly foreign aid is no solution--at its best it can be no more than a helpful spur. If something is important for Africa then Africans have to ensure that they are not dependent on outsiders for it. The present situation is serious, but surely inspiration can be gained from the struggles of the past? The Kenya Land and Freedom Army showed plenty of resourcefulness in the fight against colonialism in the 1950s: it managed without military training at Sandhurst or World Bank loans. During the Nigerian civil war the people of the area attempting to secede were well known for their inventiveness. The Vietnamese triumphed against the strongest military power in the world. Does it not all depend on the people and on the will to succeed?

What can library associations do to help? One step forward

would be for associations to produce statements of intent to be of service to all the people of their country. These would need to be followed with plans for putting the intent into practice, then schemes by which the success level of the implementation could be measured. All this would require more than professional commitment, but as Ronald Benge says: professionalism is not enough.[11]

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IFLA GENERAL CONFERENCE STOCKHOLM 1990

Division: REGIONAL ACTIVITIS

Section/RT: LATIN AMERICAN AND THE CARIBBEN

156-LATAM-4-S

El manejo de información sobre cultura popular: una estrategia de la biblioteca pública para estimular el acceso al conocimiento y apoyar procesos de alfabetización.

por

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IR 053 484

For internal use only:

Meeting No: 96

SI: yes/no

Keywords:
Alfabetización
Biblioteca Pública
Cultura Popular

EL MANEJO DE INFORMACION SOBRE CULTURA POPULAR: Una estrategia de la Biblioteca Pública para estimular el acceso al conocimiento y apoyar procesos de alfabetización

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INTRODUCCION

El subdesarrollo y la pobreza están en buena parte relacionados con el problema del analfabetismo que afronta el mundo en nuestra época, así lo reconoce la Unesco, pues los datos más recientes que dispone la Organización, ubican en un 27.7 por ciento la tasa media de analfabetismo en el mundo, lo que encubre enormes desigualdades pues existen diferencias entre los países de una misma región y al interior de un mismo país, especialmente entre las zonas urbanas, rurales y urbano-marginales. La tasa media de analfabetismo en los países en vías de desarrollo es del 38.2 por ciento, lo cual reafirma la tesis de que las causas profundas del analfabetismo deben ser halladas en el contexto del subdesarrollo global. 1/

De mil millones de adultos analfabetas en el mundo, 42.8 son de América Latina. El problema se concentra en seis países (Brasil, República Dominicana, Haití, El Salvador, Honduras y Guatemala), donde el analfabetismo absoluto habría alcanzado el 15 por ciento de la población al finalizar la presente década. Igualmente subsisten fallas entre la población indígena, especialmente en México, Perú, Bolivia y Ecuador. A pesar de esta laguna, expertos de la Unesco consideran que se ha progresado en la región. La mayoría de los analfabetas es mayor de 40 años. Las tasas de alfabetización de adultos casi se han duplicado.

Análisis recientes, como el de la Conferencia Mundial sobre Educación para Todos, realizada en Tailandia con patrocinio de las Naciones Unidas y el Banco Mundial, nos permiten concluir que las cifras no son del todo dramáticas. En algunos países latinoamericanos -entre ellos Colombia- las tasas netas de escolarización se acercan al 93 por ciento. Actualmente, más del 95 por ciento de los niños asisten a escuelas primarias. En otros, en cambio -sobre todo en Centroamérica- la proporción no supera el 85 por ciento. Se ha multiplicado por 16 la cantidad de jóvenes que reciben capacitación técnica superior o universitaria mientras que quienes nacieron en 1950 habrían tenido una probabilidad sobre tres de alfabetizarse y una probabilidad sobre cien de llegar a la Universidad. 2/

Un estudio de la Oficina Regional de Educación para América Latina y el Caribe, de la Unesco 3/, presenta como balance de la última década tres graves problemas y tres grandes avances. Entre los problemas señala: la fuerte deserción temporal; la alta repetición y la mayor dificultad que implica el atender a los grupos de niños todavía marginados de la educación, que viven en zonas aisladas o tienen serias limitaciones para aprender. Entre los segundos señala: el incremento de la educación pre-primaria; el acceso casi universal a la educación básica y la permanencia como alumnos regulares del sistema escolar durante cinco años o más.

Son varios los factores que generan los problemas: disparidad entre las ciudades y los campos; fracasos académicos, calculan que uno de cada cinco niños desertan por motivos familiares o fracasan en algunos de los años de la primaria; procedencia rural u origen indígena, pobreza, falta de educación de los padres, falta de acceso a los servicios públicos, la dificultad de contratar personal calificado que trabaje en el sector rural

por el deterioro de las remuneraciones y difíciles condiciones de vida de los docentes durante los últimos años, el que los niños tengan que trabajar, entre otros. Cada país trata de solucionar de diversas maneras los problemas dependiendo de la prioridad que le asignen dentro de sus políticas y planes de desarrollo y de los recursos disponibles. La Unesco, al declarar a 1990 como año Internacional de la Alfabetización, expresa la conciencia que tienen los líderes de la comunidad mundial sobre la necesidad de movilizar recursos, realizar campañas y desarrollar proyectos específicos sobre el particular.

Creemos que la valoración, mediante el conocimiento, reconocimiento y revitalización de la cultura popular, le permitirá a la Biblioteca Pública apoyar procesos de alfabetización y acceso al conocimiento y estimular la participación por cuanto la cultura popular esta ahí, es inherente a la actividad humana, de lo que se infiere una motivación que sirve de fundamento para desarrollar propuestas de animación de lectura que tengan éste tema como contenido.

Por su parte América Latina tiene como compromiso reducir a la mitad el número de analfabetas, antes del año 2.000, lo que significa utilizar tanto las aulas tradicionales como los medios no convencionales. "A mediano y largo plazo los países de la Región que no lo han alcanzado aspiran a que toda su población adulta cuente con la educación primaria completa y que una proporción importante continue estudios secundarios, técnicos y superiores. A corto plazo las prioridades son la eliminación del analfabetismo, la educación no convencional para adultos y la cobertura universal reduciendo la deserción de la educación primaria para menores". 4/

Los analistas plantean varias alternativas que van desde las escuelas multigrados hasta la creación y desarrollo de servicios bibliotecarios para la comunidad. Pero no hay programa que valga sin el respeto a la identidad de cada pueblo. El compromiso es llevar a los niños a las aulas, enseñar a leer a los adultos, mejorar la calidad de la vida por medio de propuestas que involucran el concepto de educación permanente. Pero esos beneficios no pueden lograrse a costa de la pérdida de identidad de un pueblo, del desconocimiento de su cultura popular, expresado como una categoría que se ubica dentro del estudio de los pueblos; la cultura popular tradicional es la principal portadora de la especificidad étnica y de la idiosincracia de un grupo humano, elementos que definen su identidad cultural.

El Analfabetismo Funcional, la Alfabetización y la Lectura.

La alfabetización por si sola, no prepara al hombre para crecer y desempeñarse social y culturalmente. La ausencia generalizada de programas bien planificados de post-alfabetización conduce a los recien alfabetizados a un analfabetismo funcional, fenómeno descubierto en los países desarrollados, así que no es sólo problema de los países del tercer mundo.

Del concepto restringido de alfabetización se ha pasado a un concepto amplio, pues últimamente se ha aceptado que leer no es sólo decodificar, reconocer símbolos y signos y traducirlos a conceptos, sino interpretar, comprender, incorporar, evaluar y utilizar los conceptos e ideas percibidos, de un lenguaje presentado en forma escrita. El recien alfabetizado debe estar en capacidad de reflexionar sobre todo lo que sucede a sí mismo y a su alrededor. Pero esto podría hacerlo si dispone de materiales adecuados a su interés y capacidad de comprensión. "La realidad de los países

en vías de desarrollo es desalentadora: prácticamente no existen materiales idóneos para neolectores, a pesar de muchos esfuerzos públicos y privados para elaborarlos y difundirlos. Entre las más relevantes iniciativas a este respecto debe citarse la llevada a cabo en Tanzania (en 1982) donde se acudió a los cuentos tradicionales como base para producir material de lectura para la post-alfabetización. También tuvo lugar en Gambia (en 1981), que consistió en el uso de la historia oral, anécdotas populares y cuentos locales, destinados a reforzar un programa piloto de alfabetización funcional". 5/

La lectura tiene entonces la función de ser un elemento básico para el proceso de desarrollo social, pues contribuye al progreso individual y colectivo, ayuda a mejorar el nivel de vida, sirve como medio para obtener información, recreación y educación permanente, ayuda al individuo a conocer en qué sociedad vive, cuáles son sus derechos y deberes lo que le permite participar, por cuanto la participación es un vehículo indispensable para que la sociedad manifieste todo su potencial creativo, permitiendo que se despliegue la riqueza contenida en la diversidad. El rol de la participación debe ser conciliar diversidad con creatividad, mientras que el rol de las Bibliotecas Públicas debe ser estimular mecanismos capaces de conciliar participación con heterogeneidad. Heterogeneidad, diversidad y creatividad pueden convertirse en agentes eficientes, entre otros, para la eliminación del analfabetismo. Una comunidad participativa es capaz de comprenderse mejor así misma, por cuanto aprende con la experiencia. La iniciativa popular y la creatividad que ésta contiene debe ser apoyada y estimulada por la Biblioteca Pública.

Importancia de la información sobre cultura popular

Cada comunidad tiene un conjunto de expresiones creativas que perduran en el tiempo y se hacen manifiestas de diferentes formas. Este conjunto de expresiones forman parte de la cultura popular y su conocimiento sirve para afianzar la identidad regional. Por esto es necesario que la biblioteca pública promueva el conocimiento y rescate de dichas expresiones, pues le permite detectar necesidades e intereses de información y lectura, pues partimos de la base que los habitantes de esas comunidades se sienten atraidos o necesitados de información referente a las actividades que realizan cotidianamente. "Es obvio que el volumen y las preferencias en la actividad de lectura están asociados con el estilo y el modo de participación en la cultura de cada individuo" 6/

La Biblioteca Pública por otra parte debe considerar las características culturales de la comunidad para contribuir a preservar y rescatar las manifestaciones culturales, y enriquecer este quehacer. En la medida que pueda ofrecer materiales escritos y audiovisuales referidos a esas actividades, recopilados con la participación de la comunidad, que tomen en cuenta los niveles de comprensión de lectura de los habitantes, promocionará la lectura, pues estos son expresión de unos conocimientos y sabiduría que tienen un valor histórico incuestionable.

El manejo de la información sobre cultura popular en la biblioteca pública

Dentro del contexto de la cultura popular, la Biblioteca Pública se propone los siguientes objetivos:

- Promover el rescate, comprensión, difusión y defensa de las culturas nacional, autóctona y minoritarias para la formación de la identidad cultural del país y en particular de cada región.

- Estimular la participación de los habitantes de su comunidad en las actividades que buscan promocionar y dar a conocer las manifestaciones culturales que representan su patrimonio.

- Servir como centro de información y comunicación sobre cultura popular, facilitando a toda la población el libre acceso a dicha información.

Los anteriores propósitos, unidos al de apoyar la educación permanente en todos los niveles, formal y no formal, están acordes con la filosofía que enmarca a la Biblioteca Pública como entidad al servicio de la comunidad que responde a las necesidades de sus habitantes brindando la información y acceso a los bienes y manifestaciones culturales que les permita mayores oportunidades para su desarrollo.

La Biblioteca Pública cumple un papel en el proceso de divulgación de las expresiones de la cultura popular de la comunidad y las actividades que en ella se realizan al:

- Ofrecer material de lectura referido a esas expresiones y actividades.

- Recopilar, organizar y difundir información sobre los creadores, autores, relatores, etc. (inventario de recursos humanos).

- Participar activamente en las actividades vinculando sus recursos y servicios: instalaciones, personal, dotación y equipo, etc.

- Dar a conocer todas aquellas expresiones culturales que son propias de su comunidad y que la identifican frente a las demás comunidades.

Para esto es necesario que quienes prestan sus servicios en las Bibliotecas Públicas, conozcan su comunidad y el área de influencia de la biblioteca, así podrán determinar si existe(n) alguna(s) expresión(es) de la cultura popular propia(s) de la zona, o que se observa(n) con regularidad, o expresiones de otras zonas que las influencian o las relacionan con las propias. Igualmente pueden prever las necesidades de información que puedan tener los miembros de la comunidad en un momento determinado, sobre ésta temática.

Deben entonces los bibliotecarios tener claros los conceptos relacionados con la cultura popular y saber cómo obtener y registrar información referida a las expresiones culturales de la comunidad, tales como:

1o. Actividades artesanales: el conocimiento de las actividades artesanales es importante pues ellas forman parte del conocimiento o sabiduría popular de amplios sectores de la población; y en consecuencia son fuente de información sobre la cultura de una región. Estas actividades cambian a lo largo del tiempo, por lo cual es conveniente observar cualquier transformación.

2o. Autores, creadores, relatores de cuentos, historias, narraciones o copleros. El conocimiento de los autores, creadores, en todos los campos es de vital

importancia para la memoria del país, pues ellos poseen todo un conocimiento transmitido desde generaciones pasadas por vía oral, y que generalmente no se le puede ubicar en materiales escritos, ó estos son escasos. La transcripción lo más textual posible de estas expresiones es una tarea que debe promover la Biblioteca.

3o. Celebraciones tradicionales: La información sobre las celebraciones tradicionales es muy importante por cuanto ellas son expresión viva del pensar de cada comunidad, es decir de su visión del mundo, de la realidad y de su poder creativo y cultural.

El conocimiento de las expresiones culturales de su comunidad, puede orientar al bibliotecario sobre posibles temas de interés para la lectura y sobre la realización de actividades cuyo fin sea la preservación y difusión de dichas manifestaciones culturales.

La recolección de esta información puede hacerse através de grupos de usuarios o personas voluntarias de la comunidad previo entrenamiento por parte de la Biblioteca.

Adicionalmente, estos grupos pueden configurarse en un puente de contacto con el resto de la comunidad, lo que a su vez ayudaría a promocionar actividades relacionadas con la lectura y la promoción cultural.

Finalmente y de ser posible la Biblioteca puede incorporar muestras de estas expresiones culturales a su patrimonio, adquiriendo artesanías, grabaciones de las celebraciones tradicionales, de las canciones, recetario de la cocina propia de la comunidad o de la región, etc.

A manera de Conclusión

Las actividades de lectura que se ofrecen a los que están en proceso de alfabetización y a los alfabetizados, para que tengan un carácter significativo, deben estar ligadas a sus intereses y necesidades. Ellos deben descubrir el valor comunicativo y expresivo de la lectura y lo lograrán más facilmente cuando los contenidos que se ofrecen se relacionan con sentimientos afectivos y de identificación al permitirles conocer el mundo que los rodea y conocerse a sí mismos, atender la necesidad de cambio, de evasión y de realización, es decir de crear.

Así mismo, para que puedan desarrollar actitudes positivas frente a la lectura, ésta debe estar ligada a situaciones agradables, desprovistas de presiones, lo que podremos obtener a través de la cultura popular, pues su familiaridad con los distintos aspectos que la componen, harán que no pierda el interés y sentido a la alfabetización.

El lector se hace y se cultiva. Una estrategia para lograrlo, sin lugar a dudas es la divulgación de la cultura popular. La Biblioteca Pública, al no disponer de suficientes materiales deberá mantener contacto con las entidades que tienen a su cargo la alfabetización y ofrecerles como insumo la información sobre cultura popular.

La orientación que se ha dado a los procesos de alfabetización en Colombia dentro del Programa de Alfabetización y Educación de Adultos, al igual que otros países cuyas experiencias señalamos anteriormente, parten del reconocimiento de la cultura y el saber popular de los sujetos, de tal manera que los contenidos son construidos localmente y contextualizados socioculturalmente, en un proceso que además promueve el encuentro entre el saber popular y el saber académico. Los métodos, de otro

lado, van de lo concreto a lo abstracto. La evaluación se centra en la relevancia sociocultural de los contenidos y métodos y apunta al desarrollo de la autoestíma e identidad de los sectores populares.

Ejemplo de lo anterior son los siguientes proyectos:

- **El Proyecto de Educación de Adultos y Desarrollo Rural**, que enfatiza los aspectos que propician el mejoramiento de la vida rural, a través de procesos de reconocimiento y desarrollo de tecnologías propias y de la promoción de formas asociativas de producción, en un contexto autogestionario, animado por las características culturales de cada región.

- **El Proyecto de Educación de Adultos y Animación Cultural**, que promueve desde los Centros de Educación de Adultos el rescate y la revitalización de las culturas locales como generadoras de autoestima, identidad, solidaridad y procesos de organización social autogestionaria.

- **El Proyecto de Alfabetización y Educación Básica de Adultos Contextualizada**, que pretende definir los conocimientos y disposiciones básicas, de acuerdo con las necesidades y características del contexto local.

- **El Proyecto de Fomento de la Lectura y Escritura con neolectores** que trata de producir textos y construir bibliotecas populares, convirtiendo a los neolectores en autores que escriben sobre sus realidades y sueños y rescatan las tradiciones y saberes de sus ancestros.

- **El Proyecto de Fronteras**, que pretende vincular las poblaciones de las fronteras al desarrollo cultural del país a partir de acciones de EDA 7/ que revitalicen su identidad y promuevan el mejoramiento de sus condiciones de vida.

- **El Proyecto de Educación en Población**, que reconoce en los programas de EDA, la posibilidad de contribuir al mejoramiento de la calidad de vida de los sectores populares, promoviendo la reflexión para la toma de decisiones autónomas sobre la familia, el medio ambiente, la organización social y la sexualidad.

Como se puede observar, los proyectos se desarrollan a través de estrategias que de un lado reconocen las potencialidades de la diversidad cultural regional del país y en consecuencia convocan a la participación local para su definición, desarrollo y evaluación y por otro lado, se apoyan en los organismos no-gubernamentales, universidades, bibliotecas públicas, grupos comunitarios e instituciones de gobierno de los sectores educativo,social y productivo. 8/

Bogotá, Junio de 1990

NOTAS

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WORKSHOP REGIONAL ACTIVITIES

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Introduction.

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BY

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1. INTRODUCTION

Information science is one of the important factors in science and technology transfer between developed countries and underdeveloped countries. The information channels receive science and technology data and transfer these data in systematic operations in order to introduce information systems and services to scientists, researchers, businessmen, etc., thus avoiding the high effort in searching and allowing maximum time for technical work.

Many studies have tackled the subject of the collecting of correct information by the researcher himself and the matter of time spent in these operations. Thomas [1] said that 15 - 20% of scientists' and engineers' time was spent in this effort in Canada and Britain, and 16½ hours of the weekly working hours of industrial managers and chemical scientists in America. Sweeney [2], at the Institute of Industrial Research and Standards (IIRS) in Ireland, showed that the managers of 9% of the establishments in Ireland spent 50% of their time in collecting data and in communication related to that data.

These are the rates for developed countries; in the third world countries, " TWC " (Through out this paper " TWC " will be used for " Third World Countries".) which are considered to be underdeveloped, double or triple these rates might be expected because of the weakness and scarcity of information services in these countries. The lack of statistics, descriptive data and accurate and extensive surveys is a major problem facing planners of the third world in the fields of information and informatics. This lack makes information planning difficult and hinders cooperation between organizations in one country and hence between countries themselves.

The available statistics are mostly derived from international sources which receive out-of-date and irregular data, a good example being the UNESCO Statistical Year Book in which one notices the paucity and age of the data with respect to the third world.

This paper seeks to highlight some facts which can help - to some degree - in the process of the planning and design of an information infrastructure.

2. THE OBSTACLES TO INFORMATION TRANSFER TO "TWC".

There are many obstacles faced by the TWC in transferring information related to different fields especially for science & technology fields. These include the following :-

2. 1 *ASPECTS OF THE CURRENT INTERNATIONAL MOVEMENT FOR SCIENCE AND TECHNOLOGY TRANSFER* :

(1) Patents ownership : This acts as a barrier to the movement of science and technology.

(2) Production agreements : The developed organizations insist on keeping secret their technical know-how.

(3) Consultancy studies and services : These services in many cases are highly expensive.

(4) Ir orting of capital equipment and factories : Especially costly when some countries have the necessary raw materials, sell them very cheaply to the developed countries, and in the meantime import the same raw materials in other forms after processing at expensive rates [3].

2. 2 *THE WEAKNESS OF SCIENCE AND TECHNOLOGY IN "TWC"*.

(1) Science and technology policies : The TWC have no clear and objective science and technology plans and policies, and when

they have, they cannot achieve the definite implementation of these plans because of many problems. At the same time they do not have the special organizations which can design and implement a sound plan for science and technology.

(2) Manpower shortage of scientists and technologists : Most of the TWC suffer from the shortage of technically-skilled persons in science and technology, and this matter is related to the educational plan and its connection with country requirements.

(3) Scientists and technologists migration : The developed countries offer many advantages to scientists and technologists, and the TWC "assist" in their migration since they do not try to provide a beneficial scientific atmosphere suitable to their scientists. In 1960, migration from Europe to the US was discussed in many conferences and studies, and in some cases this matter affected the scientific and technological plans of some European countries. The ' stealing of this very impressive wealth ' is like the harvesting of the TWC investment manpower after many years of education and training.

(4) Scientific and technological research. This has fourth or fifth priority, and in many cases budgets are cancelled.

(5) The scientific and technological institutions.: The limited budgets for science and technology allow little chance to the research institutions to develop themselves, and do not support the creation of any new scientific and technological institutions.

(6) Education plans : The TWC usually do not connect the education plans with their requirements for scientists and technicians.

2. 3 THE GAP BETWEEN ECONOMIC ACTIVITIES AND SCIENTIFIC AND TECHNOLOGICAL ACTIVITIES

The TWC plan their scientific and technological policies without relating them to various economic activities. They fail to make the link between economic activities and the research institutions; they do not have the capability to connect the economy and science to solve industrial problems [4].

2. 4 THE SITUATION OF SCIENTIFIC AND TECHNOLOGICAL INFORMATION IN "TWC".

Scientific and technological information is even weaker and less developed in the TWC. There are not enough specialists in the field to fight for its stability and development.

3. FACTORS AFFECTING INFORMATION IN THE "TWC":

3. 1 INTRODUCTION

Factors influencing information transfer from most developed countries to developing countries, go through many stages and result in various impacts affecting the information infrastructure within these countries.

A glance at Appendix A shows the influencing elements and the considerations associated with information technology in the TWC. It also discusses how they affect the information situation and shows the poorness of information infrastructures in the TWC [5].

A study has revealed that, of 143 papers submitted from less developed countries to scientific periodicals for publication between 1968-1974, 57 (40%) were rejected for their inadequacy; the remaining 86 papers were evaluated and 44% of them

were trivial and 73% arrived at inaccurate or false conclusions [6]. This was mainly due to lack of information and very poor current awareness and information dissemination services, rather than because of the lack of expertise of scientists and technicians in these countries.

3. 2 BASIC FEATURES CHARACTERIZING THE "TWC":

3.2.1 TWC division into two areas of information technology

Some countries are completely orientated towards Anglo/ American information technology, while the other countries are nearer to French information technology because of language. This feature affects information hardware, software, systems, programs, packages and standards.

In other cases the TWC are divided into two categories according to political alignment, using American or Russian information technology.

3.2.2. Wealthy and poor TWC :

There are some wealthy TWC whose financial surplus enable them to follow the development of information technology even though it is inconsistent with their social and scientific development. They acquire the most modern techniques regardless of their suitability to the environment or their usefulness (e.g. the optical laser disk 'OLD' technology).

Other poorer TWC cannot so quickly acquire information technology. They still use obsolescent hardware and it is very difficult - if not impossible - to replace them by new equipment, since this would be considered as a luxury with regard to their national incomes.

3.2.3. Scientific variation between the TWC

There is no doubt of the significant variations in scientific development within the TWC. Some have made good progress in science and technology and modern development and have established reliable infrastructures. Others are still at the beginning of a long journey. As information technology is associated with the scientific and technological progess in a country, we can conclude that the uniformity of information technology in the TWC will not be easy to achieve.

3.2.4 Technical manpower

Some TWC are self-reliant in the provision of their particular requirements for specialist personnel and actually export a surplus of such personnel. Others - are largely short of indigenous manpower. They have to import specialists in all fields of information technology. This leads to an instability of information systems because of the movement of non-national manpower made worse by a lack of uniformity due to the combined expertise of a multitude of various foreign staff. This results in a genuine threat for the shut down of imported systems, especially if they are sophisticaed.

3.3. COMMON FEATURES CHARACTERISING THE "TWC":

There are some common features with regard to information technology situation in the TWC [7].

(1) Lack of technical and skilled manpower in library, information and computer fields.

(2) Tight control of major vendors over the TWC information and informatics market.

(3) Lack of basic tools to standardize information technology in both hardware and software.

(4) Wide use of cobol holds the lion's share among the programming languages.

(5) Information and informatics education is still below the level required in school and university education.

(6) Unavailability of clear and well defined policies of information and informatics.

(7) Low use of hardware by time, and the wide variation of exploitation from one state to another.

(8) Poor maintenance of equipment and the lack of spare parts and their unusually high costs.

(9) Unavailability of scientific societies and unions which could help to promote and develop the information professions.

(10) The lack of comprehensive surveys, basic sources and necessary directories which could help in outlining the situation of information technology, specially for the support of proper and sound plans and studies.

(11) Centralized administration prevailing in most institutions and organizations and leading to a complete absence of coordination between them in the information and informatics fields.

(12) Lack of coordination of information services in TWC. Many organizations and institutions provide the same information service without regard to others, creating waste of time, manpower and money.

(13) Lack of communication with the information services in developed countries. The TWC have not reached the stage of cooperating and developing their relations with developed countries in information activities and services, and of transfer of their technology in that field.

(14) Different use of library and information terminology and different methods of applying cataloguing and classification rules. [8].

(15) Lack of communication with the international information services conducted by United Nations agencies and international unions and societies in information activities.

(16) Many of the TWC have not joined the international standards systems, e. g. :

(1) The international copyright agreement.

(2) The International Standard Book Number (ISBN)

(3) The International Standard Serial Number (ISSN)

The same applies for most of the other standards in the information and documentation fields.

4. SOLUTIONS AND RECOMMENDATIONS

We shall discuss the solution of information problems in TWC (Fig. 1) from three points of view :

(a) Local and internal solutions.

(b) Regional level solutions.

3 Relations with Developed Countries

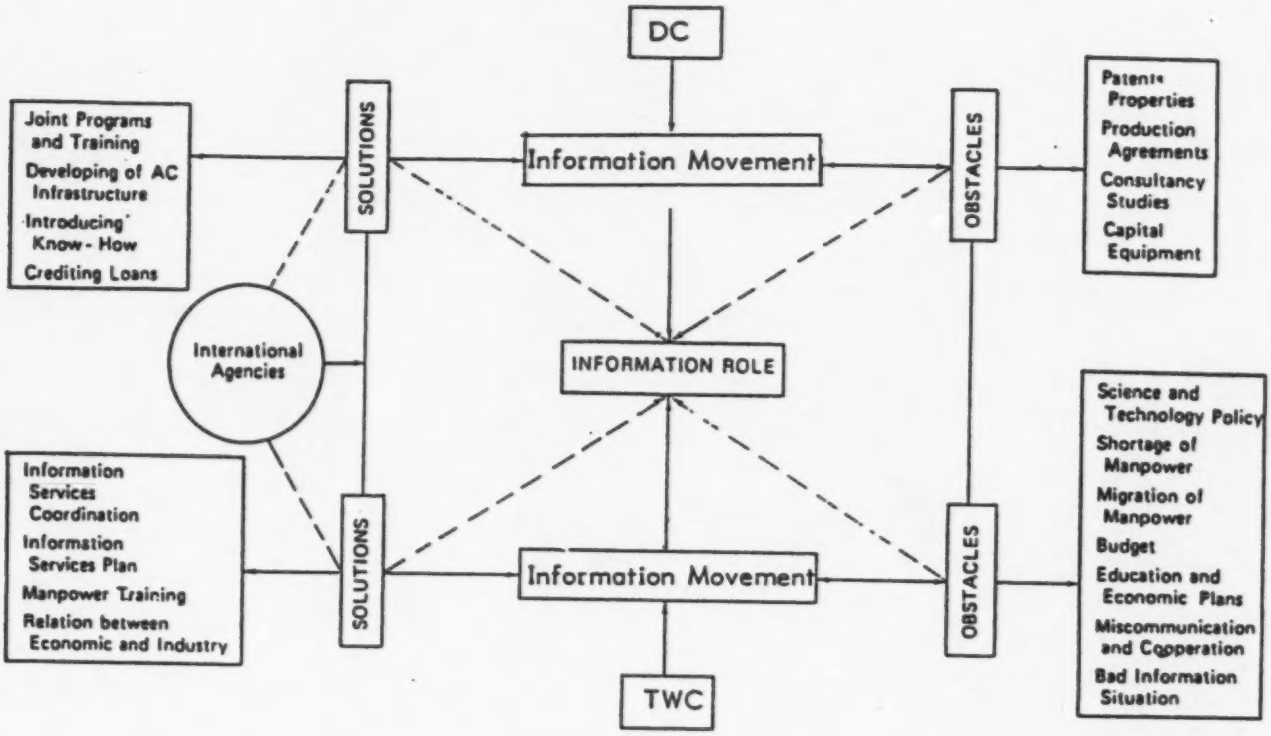

Fig. 1. Science and technology transfer between DC and TWC (DC = Developed Countries) (TWC = Third World Countries).

4. 1 LOCAL AND INTERNAL SOLUTIONS

This is divided into two general items :

(1) Coordination between information resources and channels. This coordination will (a) eliminate the repetition of effort, (b) avoid waste of time, manpower and money, (c) develop the performance of information systems, (d) survey information resources and gaps in these resources, (e) identify clearly the objects of information policy, (f) identify the available information systems and the capacity, type and services of these systems, (g) establish SDI systems in scientific and technological fields.

(2) Stress on designing a comprehensive plan for information. It is very important to an country to have a comprehensive plan covering all information services and activities. This plan must : (a) embrace the available information resources and current information about them, (b) connect the information plan to the education plan and economic plan, (c) stress decision-making in all the activities of an country until decision making occurs in a coordinated network which takes note of the influence of any decision on other activities, (d) develop the communication channels inside the country, (e) rebuild library, information and documentation services, (f) use up-to-date technological devices in that field, and (g) plan to have enough technical manpower to work effectively in that field. [9].

We can say that the national level plan must study clearly the economic, political, sociological and cultural indicators of its society, and must be related to users' needs and requirements.

4. 2 THE REGIONAL LEVEL

The regional level plan should begin after the national rebuilding plans, and must be concerned with available resources and gaps in services at the

regional level. The national level plan of an country will be the base of any regional plan for cooperation, coordination and integration; it must concentrate on :

(1) The current changes in science and technology and the method of their transfer.

(2) The role of information in the development of TWC.

(3) Coordination between TWC in plans for information services.

(4) The seeking of help from the international organizations and agencies and the UN establishments [10].

4. 3 *RELATIONS WITH DEVELOPED COUNTRIES* :

Relations with developed countries must be more active and concentrate on these activities :

(1) Joint scientific and technological programmes, for example joint studies in medical or engineering sciences.

(2) Joint cooperation to develop the infrastructure. The developed countries can cooperate in establishing and developing the infrastructure of TWC, such as scientific research centres, advanced training centres, experimental centres.

(3) Joint training programmes. The developed countries can help TWC in training their manpower, based on : (a) surveying the manpower in science and technology, (b) identifying the manpower problems and requirements of the TWC.

(4) Cooperation between national centres for science and technology in developed countries and TWC. This cooperation in science and technology would involve research, exchange visits for scientists and technologists, and the secondment of scientists from developed countries for different periods to encourage contact between scientists.

(5) Utilization of the international agencies. The TWC must utilize the United Nations agencies and the other international agencies which work

in science and technology, such agencies can provide : (a) experts in special topics to develop TWC industries, (b) support for scientific and technological research related to the TWC, (c) scientific and technological publications which will help in the movement of technology between developed countries and TWC, (d) help to the regions in TWC, (e) loans to TWC to implement those industrial projects which will develop the industrial scientific and technological sectors.

(6) Feasibility studies of industrial projects. The TWC usually depend on the international consultancy firms to prepare feasibility studies of industrial projects. These firms sometimes prepare the same study for different countries and charge very high fees. In particular, some countries which have one principal source of raw materials, such as oil, minerals, etc., might exchange these related feasibility studies, or exchange their experience on some projects from the point of view of implementation and problem-solving [11].

The developed countries might cooperate with TWC by (a) preparing these feasibility studies free of charge, (b) helping the TWC to establish scientific institutions specialized in preparing these feasibility studies and the know-how for implementation of industrial projects.

5. THE ROLE OF INTERNATIONAL ORGANIZATIONS IN DEVELOPING INFORMATION IN "TWC"

The TWC require their own scientific and technological information systems. These internal systems must be connected with the information networks of the developed countries and also these systems must have the encouragement and benefits of the United Nations Organizations which are interested in scientific and technological information, particularly :

(1) The UNISIST programme, which was established in 1972 and aims to coordinate scientific and technological information activities at the national and international levels.

(2) The international system for the exchange of information on science and technology, for policy making, management and development (SPINES), which was proposed by UNESCO, and based on the principle that member states and international organizations should be assisted in the sharing of the literature and basic data which they produce in science and technology.

UNESCO, has already provided assistance in the form of expert missions to survey information facilities and needs, and many feasibility studies have been run, and some of these studies have resulted in operations. This progress will be increased by cooperation between Arab countries, in taking some of the projects as models for planning and training, and by the exchange of information about projects. But, who will put this into effect ? It suggests that the TWC are in need of a regional centre for technology transfer, and the United Nations Economic Commission for West Asia (ECWA) has run a feasibility study on the establishment of this proposed centre.

Our concern here is the role of information in such a centre. The feasibility proved that information is one of the important activities, and I believe that this centre must have a sophisticated information system depending on :

(a) Establishment of a very active data retrieval system in science and technology.

(b) Establishment of a comprehensive document retrieval system in science and technology.

(c) Establishment of online terminals using the largest data bases in Europe and U.S.A. [12]

(d) Establishment of a comprehensive survey of the available resources of scientific and technological information in the TWC.

(e) Establishment of a very sophisticated system for patents and intellectual property in two branches :

- Patents system to cover all the national patents of the TWC.
- Connection with foreign patents system to provide the required information about foreign patents speedily and easily.

These five activities can cover scientific and technological information in the TWC, and can help the TWC in the planning and execution of their technological plans and future objectives.

- TWC must benefit from the international and intergovernmental organizations in the information fields such as : IFLA, FID.... etc. and make use from their worldwide experience and communication which can help in the building of the information infrastructure of TWC.

Science and technology transfer between developed countries and underdeveloped countries will be a repeated item on the agenda of many conferences, meetings and committees, because of the availability of know-how in developed countries and raw materials in TWC. The information role will be the active link in the transfer operations, facilitating the development of science and technology in all countries.

APPENDIX A :

Factors affecting information technology transfer to the TWC

Factors/ Aspects	Considerations
Economic	- Available manpower in society - Unavailability of capital - Inadequacy of current expenditure - High cost of international activities - Lack of local competition
Manpower	- Lack of skilled manpower - Ignorance of the role of information specialists in organizations - Difficulty of employing good professionals - Lack of continuous education - Lack of team work
Cultural & Demographic	- High percentage of nonskilled manpower - Language barriers - Fear of new technology - Lack of information and tools
Political	- Unstable governments - Stress on security procedures - Continuous change in the priority of programs - Centralization of decision making - Ignorance of scientific methods by top level management
Information Infrastructure	- Lack of telecommunications tools - Inconsistency of postal communications - Complexity of customs procedures - Incapability of joining communication networks - Lack of standards for library and information activities - Lack of comprehensiveness of collections of publications - Lack of standardized forms to support information flow

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